

COMMERCE

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*Magazine*

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*Gen. Wood Views The Future*

*Are You A Class "Z" Voter?*

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*Why Toll Roads*

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*Key To Investment Billions*

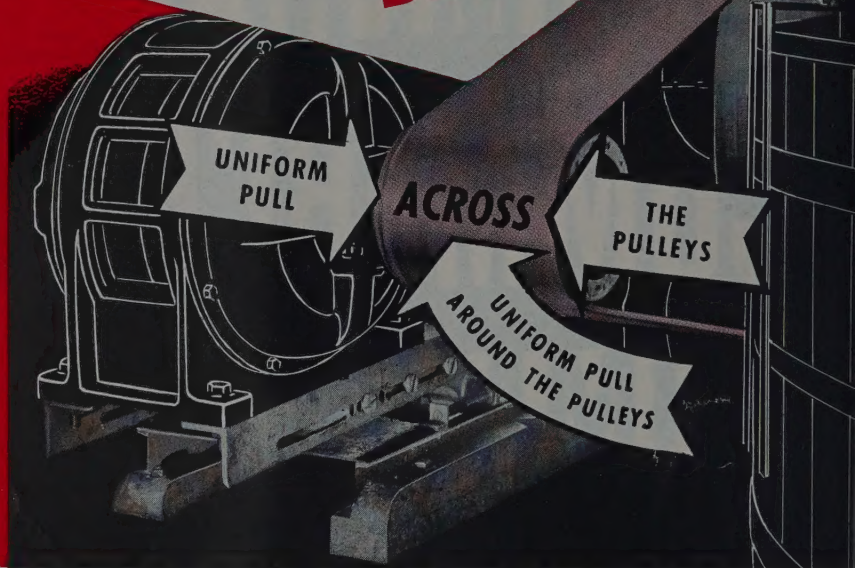
COMMERCE

*Electronic Office Magic*

COMMERCE

*May, 1954 • 35c*

# YOU GET BETTER SERVICE LIFE WITH ONE CHICAGO BELT



## BECAUSE THERE IS ONLY —

- ONE BELT
- ONE EVEN TENSION
- ONE PULLEY GRIP
- ONE EVEN UNIFIED PULLING POWER

If a Chicago Belt were cut into six strands, with each strand placed in a pulley groove and used as a multiple-pull belt drive, this is what would happen within a few years—

1. Each strand would carry an unequal share of the load because of the dissimilar service wear on each strand.
2. The pulley grip of each strand would be different, some strands would slip, some would "ride" and others grip firmly.
3. The six strands would have six uneven and improper tensions — resulting in reduced drive efficiency.

4. The pulling power also would vary, with only a few strands actually pulling the load.

THAT'S WHY CHICAGO BELTING COMPANY DOES NOT BELIEVE IN THE PRINCIPLE OF "MULTIPLE PULL" BELT DRIVES.

We know that Chicago Belts will outwear and outlast multiple-belt drives every time by our own service records. There are other important reasons for choosing Chicago Belts. Call MONroe 6-5050 and get the full story from one of our Sales Engineers.

*For "Unified Pulling Power" demand Chicago Belting*

## CHICAGO BELTING COMPANY

MANUFACTURERS OF LEATHER BELTING AND LEATHER PACKINGS

GREEN & WASHINGTON STREETS, CHICAGO

Before buying — get all the facts on modern Chicago Belting Belt Drives. Write for literature today.

# Englewood

and Remington

ring you the finest in

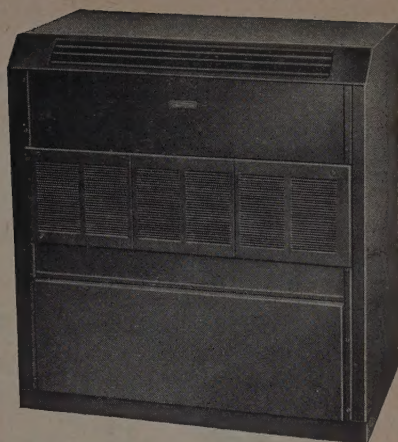
## AIR CONDITIONING UNITS

with a range of models  
to meet every need

experience is the big "buy-word" in  
air conditioning units, and Remington's  
experience in the refrigeration field  
dates back to 1872. They manufacture  
air conditioning units *exclusively*, and  
this engineering specialization, coupled  
with long experience, is responsible  
for the advanced features found only  
in Remington. Here are a few:

Climate Compensator  
Comfort Control  
Thermostatic Cooling Control  
Lo-Power Economizer  
Variable Velocity Outlets  
Stylized Cabinets  
Heating

**ORDER EARLY—**  
remember last summer

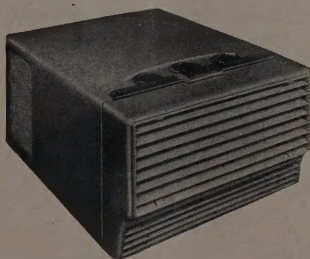


Where appearance is not important and economy is the prime factor. The "Leader" model, in the furniture steel cabinet, is ideal for lower cost installations. Available in 1 and 1-1/2 h.p. sizes.

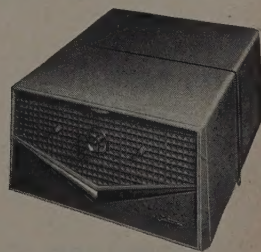


The "Overton" (1-1/2 h.p.). For MODEL 12—extra large rooms and offices. Also available in 1 h.p. size and water-cooled. Mahogany and blond wood.

**REMINGTON CONSOLES**  
are available in water-cooled and also for direct current



MODEL 6—(1/2 h.p.) for smaller offices and rooms. Also available in 1/3 h.p.



MODEL 8—The "Professional" (3/4 h.p.) for larger offices and rooms. Also available in 1 h.p.

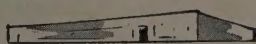
EXCELLENCE IN ELECTRICAL PRODUCTS  
**Englewood ELECTRICAL SUPPLY CO.**  
4 COMPLETE STOCKS TO DRAW FROM



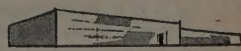
**CHICAGO**  
5801 S. HALSTED ST.  
ENGLEWOOD 4-7500



**ROCKFORD**  
124 N. FIRST ST.  
DIAL 3-5441



**SOUTH BEND**  
325 N. LAFAYETTE BLVD.  
DIAL 3-8233



**GARY**  
4172 BROADWAY  
DIAL 4-9441

# FOR MEN ONLY

## United Air Lines "THE NEW YORK EXECUTIVE"



Leave Chicago 5 p.m.

Arrive New York

8:55 p.m.



Relax after a busy day in informal, club-like surroundings.



Pipe and cigar smoking permitted with slippers provided for your complete relaxation.



Enjoy a full-course steak dinner complete with cocktail!



Special Services include last-minute message service, Closing Market Quotations and latest New York newspapers.

Only \$3.00 above regular  
1st Class Mainliner fare.

Note: "The New York Executive" is in addition to the regular 5:05 p.m. non-stop. Ten other "round the clock" nonstops daily between Chicago and New York.

Local Times Quoted



### statistics of...

## Chicago Business

	March, 1954	February, 1954	March, 1953
Building permits.....	978	606	1,000
Cost.....	\$ 13,795,744	\$ 11,855,406	\$ 14,144,000
Contracts awarded on building projects,			
Cook Co.....	2,135	1,570	2,400
Cost.....	\$ 61,448,000	\$ 48,517,000	\$ 52,178,000
(F. W. Dodge Corp.)			
Real estate transfers.....	6,164	5,382	6,900
Consideration.....	\$ 7,029,673	\$ 4,847,609	\$ 5,066,500
Department store sales index.....	83	85	85
(Federal Reserve Board)			
(Daily average 1947-49=100)			
Bank clearings.....	\$ 4,306,763,948	\$ 3,496,460,642	\$ 4,283,134,900
Bank debits to individual accounts:			
7th Federal Reserve District.....	\$26,150,000,000	\$20,701,000,000	\$24,861,000,000
Chicago only.....	\$13,854,016,000	\$10,506,056,000	\$13,165,564,000
(Federal Reserve Board)			
Bank loans (outstanding).....	\$ 2,896,000,000	\$ 2,811,000,000	\$ 2,801,000,000
Midwest Stock Exchange transactions:			
Number of shares traded.....	1,618,340	1,264,996	1,577,000
Market value of shares traded.....	\$ 53,545,506	\$ 42,252,014	\$ 47,570,000
Railway express shipments, Chicago area.....	988,645	864,928	1,136,000
Air express shipments, Chicago area.....	64,516	56,982	65,000
L.C.L. merchandise cars.....	18,917	16,191	19,000
Electric power production, kwh.....	1,402,444,000	1,258,260,000	1,396,387,000
Industrial gas sales, therms.....	15,644,116	14,146,712	16,155,000
Steel production (net tons).....	1,471,300	1,429,100	1,833,000
Revenue passengers carried by Chicago			
Transit Authority lines:			
Surface division.....	48,106,759	42,910,919	50,745,000
Rapid transit division.....	12,530,863	11,048,569	12,162,000
Consumers' Price Index (1947-49=100).....	116.7	116.7	116.7
Receipts of salable livestock.....	404,690	355,070	437,000
Unemployment compensation claimants,			
Cook and DuPage counties.....	66,342	65,893	21,000
Families on relief rolls:			
Cook county.....	20,548	19,232	17,000
Other Illinois counties.....	16,295	15,831	12,000

### June, 1954, Tax Calendar

Date Due	Tax	Returnable to
1	File Illinois Capital Stock Tax return	Director of Revenue (Illinois)
15	If total O.A.B. taxes (employer and employee) plus income tax withheld in previous month exceeds \$100, pay amount to	Authorized Depository
15	Payment of one-quarter of 1954 estimated tax found due March 15 by individuals. (Those required to file declaration for first time, or making revised declaration, pay one-third of the balance of 1954 estimated tax.)	District Director of Internal Revenue
15	Illinois Retailers' Occupation Tax return and payment for month of May	Director of Revenue (Illinois)
15	Second installment (45%) of 1953 Federal Income Tax by Corporations	District Director of Internal Revenue
15	Payment of Federal Income Tax withheld at source	District Director of Internal Revenue

# COMMERCE

## Magazine

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**Sturdy, Editor • Gordon Rice, Advertising Manager • Gordon Ewen, Associate Editor**

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### in this issue...

For the next generation the prospect of a growing population means a healthy U.S. economy. Yet, in the past similar population rises have only increased misery and poverty in many European and Asiatic nations. One of America's most farsighted businessmen, Gen. Robert E. Wood explains (Page 13) the seeming contradiction in an article that looks into the nation's business future.

• • •

Reapportionment may be a stifling, legalistic sort of word, but it has a dramatic meaning for Illinois. Arthur T. Leonard, president of the Chicago Association of Commerce and Industry, tells on Page 15 how several million Illinois citizens are Class "Z" voters so far as their power to elect members of the state legislature is concerned. His article is a strong endorsement for the reapportionment amendment that will be voted on in the November election.

• • •

The fact that motorists have to pay an average of 1 cent a mile to used them hasn't hindered the tremendous postwar growth of toll roads. Traffic has exceeded all expectations, revenue bonds are being paid off ahead of schedule, and what's more they're safer to travel on, writes Charles Keysor on Page 16.

• • •

Never underestimate the power of a financial analyst, says Daniel Nicholson, writing on Page 19. Twenty-five years ago the analyst was little more than the custodian of Moody's Manuals; today his influence on corporate affairs is recognized, and company presidents vie for the honor of addressing his societies.

• • •

International Harvester Company has an electronic computer that does in 32 hours a job that used to require 700 man-hours. Miracles like this have caused business to take notice of these amazing machines. Phil Hirsch's article (Page 21) tells what makes computers tick and some of the jobs that they are doing for major companies.



# Supervised Protective System

**TRAINED WATCHMEN and GUARDS...**



CONVENTIONS



CONSTRUCTION PROJECTS



PLANTS AND  
WAREHOUSES



SHOPPING CENTERS

Kane can provide you with a complete, uninterrupted watchmen or guard service. Personnel are trained, thoroughly experienced, and fully supervised by Kane officers who cruise assigned districts in squad cars. In addition, the Kane Service

eliminates your personnel problems of hiring individual watchmen, and also eliminates the danger of having a single isolated man alone on the job. Kane Watchmen and Guards are smartly uniformed and the service includes insurance coverage, social security, unemployment taxes, and overtime.

*Write for FREE Illustrated Booklet*

or telephone MOhawk 4-6181  
for complete information.

## **KANE SERVICE**

510 North Dearborn Street  
Chicago 10, Illinois

# The Editor's Page

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## *Job For A "Con" Man*

On occasion, the Kremlin, despite its never ending denunciation of capitalism, finds it expedient to borrow techniques and ideas from capitalistic nations, notably the United States. A recent dispatch from the Associated Press Moscow Bureau offers an interesting instance.

The Soviet press, which faithfully reflects government policy, has been criticizing Soviet industry — which of course is a government monopoly on both the producing and distributing levels — for a poor advertising job. The ads have not been sufficiently informative and have lacked pulling power. So the leadership has gone out to correct matters as part of the Malenkov government's widely heralded campaign "give the Soviet common man a better living standard."

This is an interesting affirmation of faith in the power of advertising. In our country, it would warm any man's heart. But in Russia it must be frightening to the point of raising haunting visions of Siberia. It is one thing to use advertising to sell high standard living goods long in quality and low in price to a well financed market. It is another in Russia where the same government newspapers that criticize advertising continually mourn the exorbitant prices and poor quality of Russian merchandise.

Some insight into the Russian advertising fraternity's problem can be gleaned from an article in *Newsweek* by Leon Volkov. According to his account, the average Soviet worker earns \$175 a month. With this meagerly lined pocket he is offered in Moscow stores jewelry costing as much as \$11,000, gold, which he must take to the dentist if he wants a tooth filled, at \$100 a fine ounce, a 12-inch television set at \$563 and a refrigerator at \$500. Oranges, which Mr. Volkov reports the Russian government bought from Israel at 40 and one-half cents each, are priced at 47½ cents per retail.

To round the picture out, Volkov reports that in the great drive to raise the Russian standard of living, the government is boosting the output of high priced products 70 per cent against an increase of only five per cent in the production of low cost items.

Faced with this kind of situation, American ad men, who lead the world in their craft, would resign in disgust. And on their way out they would undoubtedly advise that what the client needed to peddle his wares was a confidence man.

## *A Movie That Took Audacity*

A few years ago workers at a New Haven, Conn., company went on strike. One of the union's demands was for a pension plan. There is nothing unusual about a demand for a pension plan—except that this particular company already had a plan that had been in force for years.

Most companies will admit that one of their most baffling problems is to get employees to understand, let alone appreciate, their insurance and pension plan benefits. Booklets, lectures, slide films, articles in company publications, and even personal conferences have all been enlisted in the educational campaign with varying degrees of success.

The latest frontal attack on the problem has been made by United Air Lines. It has produced and is now showing to its 15,000 employees a 50-minute color film titled "Career," which covers United's insurance program from A to Z in a series of dramatized episodes.

United rates equal applause for the excellence of its film and for having the audacity to believe that an almost feature-length film on a subject like company insurance could be attention-holding.

One of "Career's" strong points is authenticity: each episode is a case history taken from the files of United's insurance department. The cast was recruited from United employees and their families, who turn out to be competent actors. One wife, who played the part of an expectant mother, followed through by giving birth to a child the day after her appearance before the cameras.

The central character is a \$400-a-month clerk who is thinking about giving up his job with United for outside employment that would pay \$50 a month more. Before "Career" is over, he learns not only how much protection he gets from the company-sponsored insurance and pension plan, but that it would cost him an extra \$100 a month, if carried on his own. He even hears about a fellow-employee who drew accident coverage after unsuccessfully attempting to bite the cap off a beer bottle.

If *COMMERCE MAGAZINE* awarded "Oscars," it would give one to United Air Lines. Their movie is a forward step in a very difficult area of employee communications.

*Alan Sturdy*

the

# Matador



The Matador creates within the ritual of the bullfighting tradition a work of art.

It becomes important that you who dine in The Matador Room receive an aesthetic as well as a gustatory experience.

new room in the home of the internationally famous

SIRLOIN ROOM

## Stock Yard Inn

42nd AND HALSTED STREETS  
TELEPHONE Yards 7-5580

## Here...There... and Everywhere

• **Small Atom Plants** — Bendix Aviation Corporation announces the start of a research program to design mobile atomic power plants small enough to be transported on railroad cars. Under an agreement with the Atomic Energy Commission, Bendix will study the future of atomic power—including related products and by-products—in the expectation that new reactor designs may be worked out and new uses found for radioactive isotopes or fission products. All costs will be borne by the company.

• **Name Calling** — A spade should always be called a spade, but a furnace isn't always called a furnace, reports the Selsco Corporation of America. Assorted customers order the same heat-treatment equipment from Selsco under a wide variety of names. The firm's radiant furnace, when shipped to a glass factory is called a "lehr"; to a brick manufacturer, it's a "kiln" to a steel maker, a "furnace"; to commercial bakers, an "oven"; to the petroleum and plastic trades, it's a "cracker"; foundries call it a "hearth."

• **Before You Move** — Private fire brigades are a "must" for almost all industries moving into the suburbs or smaller towns, according to fire prevention engineers for American Manufacturers Mutual Insurance Company, a member of the Kemper group. The company reports that a national study shows that half of last year's large fire losses in manufacturing plants occurred in or near communities whose fire defenses were generally inadequate to cope with the special requirements of industry.

• **How to Avoid Hijackers** — As part of the campaign to reduce hijacking, maps showing Chicago and Illinois truck routes covered by special police patrols have been distributed to shippers, receivers and

truckers by the cartage theft committee of the Chicago Association of Commerce and Industry. The committee prepared the maps in cooperation with police, FBI, and army officials. The maps list the phone numbers of Chicago, county and state highway police departments and spot the locations of county and state police stations. A few copies are still available through A. C. Phelps, at Association headquarters, 1 N. La Salle St., Chicago.

• **Fire-Fighting TV** — Now it's television vs. forest fires! Raytheon Manufacturing Company of Waltham, Mass., is making a suitcase-sized TV camera unit for mounting on fire control towers. Equipped with telephoto lens, the camera is rotated through a complete circle every two minutes and the image relayed via microwave to a central headquarters miles away. On a test at the Alexander State Forest in Louisiana, Raytheon reports that observers could easily see a cow munching grass four miles from the camera.

• **Co-op Students Wanted** — Illinois Institute of Technology's cooperative education program has reached a postwar enrollment high of 89, but there are still more sponsors than applicants. Thirty-three firms are participating in the program, under which a student alternates periods of classroom work with employment in industry. While working for the sponsoring company, the student receives a salary sufficient to finance his education. The program is offered in four engineering fields—electrical, industrial, mechanical, and metallurgical. About 1 and a half years are required to complete a degree.

• **Cans By the Billion**—Production of metal cans by the U. S. contains

(Continued on page 31)



## Here's your new source for caustic soda

If your plant is in this area you can now have liquid caustic soda delivered more rapidly, more dependably, than ever before.

Here's what this new Hooker caustic soda plant at Montague, Mich., means to Midwest industry:

1. **Fast delivery.** You can have caustic soda delivered by tank car, loaded and dispatched within 24 hours of your call. In and near Chicago, tank car deliveries are made from Chicago stocks.
2. **Freight savings.** Depending on locality, you can save up to \$2.84 per ton on freight. (To learn specific freight savings to your plant, just phone the Chicago office—CEntral 6-1311.)
3. **Dockside delivery.** On Lake Michigan and adjacent waterways you can have Hooker caustic delivered by barge—a

new Hooker service (minimum 250 tons, dry basis). Savings are substantial.

4. **Prompt service you can count on.** At the Hooker sales office, 1 N. LaSalle St., Chicago, men are ready to help you plan efficient handling and storage, meet emergency needs, work out the most economical purchasing and delivery arrangements.
5. **Smoother, better processing.** You can use constant processing methods, and get consistent results with Hooker caustic soda. It's produced under careful control; more than 20 separate inspections and analyses protect its uniformity.

**Tighten up your caustic supply line now** Many industrial leaders in the Midwest are already enjoying the convenience,

economy, and dependable supply of Hooker caustic shipped from Montague.

You can have the same convenience and security *tomorrow*. Just pick up your phone and call us.



Caustic soda for Midwest Industry comes from this new \$12 million Hooker plant at Montague, Mich. The plant is built over a tremendous bed of pure salt, which supplies the caustic-producing cells.

FOR FAST SERVICE, phone Chicago—CEntral 6-1311  
SALES OFFICE: 1 N. LaSalle St., Chicago 2



*From the Salt of the Earth*

**HOOKER ELECTROCHEMICAL COMPANY**

NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES



## One La Salle Street

Here, at the center of Chicago's financial, life insurance, legal, and commercial activities, skill and expert scientific planning have created a modern business setting of outstanding distinction. The many prominent tenants of this great building appreciate not only this factor of central location, but also the high standards of service maintained for their comfort and convenience, making One La Salle Street an address of prestige. For all who seek downtown office space, the special advantages afforded at One La Salle Street are worthy of first consideration.

**L. J. Sheridan & Co.**  
Management Agent

One La Salle St., Chicago - ANdover 3-7457

## Trends . . . in Finance and Business

• **Vacation Policies** — With summer but a few weeks away, the Office Management Association of Chicago has released a survey on vacation policies of Chicago area firms. The survey covered 243 companies employing 116,169 office employees. These are the findings:

45 per cent grant vacations after six months of employment; 31 per cent give some vacation allowance for less than six months' employment.

88 per cent give two weeks during (not after) the second year of employment.

40 per cent permit vacations to be taken anytime during the year, not restricting them to summer months.

Not until employes complete 15 years do two-thirds of the companies give three weeks; 25 per cent give it after ten years.

25 per cent allow carry-over of unused vacation until another year.

44 permit payment in lieu of vacation.

82 per cent grant an additional day off for a holiday that falls during an employee-selected vacation period.

93 per cent allow employes to split vacations.

50 per cent pay for full vacation period at time vacation begins.

75 per cent pay for unused vacation when an employe resigns; 64 per cent grant such pay to employes who are discharged.

• **Middle Executive Pay** — Middle-management executives — the men who rank between top echelon management and first-line supervisors — are getting more financial attention from their bosses, reports the American Management Association. Almost half the 1,300 middle-management men studied received salary increases between July, 1953, and April, 1954. For the entire group of

1,300, the increases represented an average raise of 3.8 per cent; for the recipients, they averaged 8.4 per cent of base pay.

The middle group was also reported as getting along very nicely in regard to supplementary compensation plans. Of 568 companies surveyed by the AMA, 96 per cent provide group life insurance plans; 9 per cent have group health, accident or disability insurance programs, and 86 per cent maintain retirement income plans for middle-management executives.

• **Class of '54** — There are just many jobs waiting for next month's college graduates as there were for the 1953 graduates, and starting salaries will average about 5 per cent higher than last year's all-time peak. This is the preliminary report of the Northwestern National Life Insurance Company of Minneapolis, which each year surveys the employment outlook for students.

The company said that based on reports from 40 colleges and universities, all engineers should be placed by commencement time and should most non-technical graduates. Practically all of the remainder who do not enter the armed services will be employed by fall.

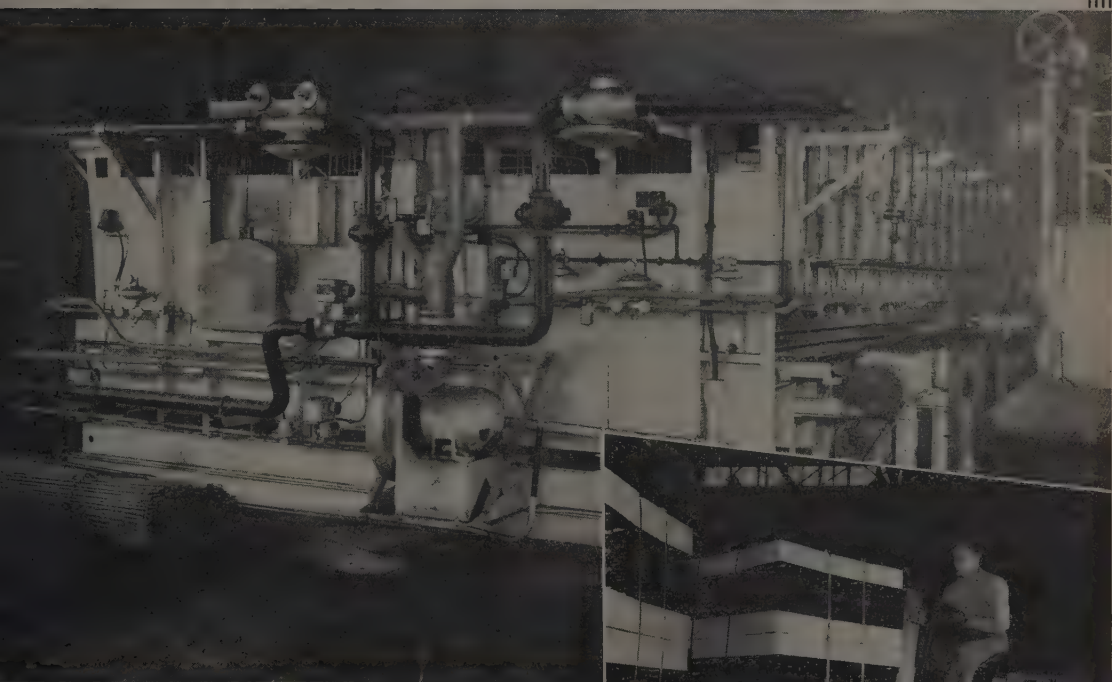
The June crop of engineers is expected to start at monthly salaries of from \$350 to \$400, and non-technical graduates at from \$300 to \$375. This is \$10 to \$20 a month higher than a year ago.

• **Withholding on Rise** — Withholding taxes on individual income are accounting for an increasingly large portion of the government's total income. For the 1953 fiscal year the amount to 30.2 per cent of all government receipts against 27.3 per

(Continued on page 47)



# AS at Work for Chicago's Industry



1. Screw type gas-fired furnace at the plant of the Burton Auto Spring Corporation, 2433-41 W. 48th St., Chicago, which is used for heating steel rods to 1600 degrees F. prior to being formed into coil springs.



2. Completed coil springs are packed in expendable pallets and fork-lift trucks carry them to the shipping department.

The Burton Auto Spring Corporation located on Chicago's southwest side is in the business of making springs for the automotive industry. For the various heating operations which are used in

the manufacture of both coil and leaf springs, gas has proved to be the ideal fuel. It is clean, economical, and completely automatic.

**THE PEOPLES GAS LIGHT AND COKE COMPANY**



# A Look At The Future

**Rapid population growth is the greatest  
single factor in our economic life today**

**By Gen. Robert E. Wood**

Prior to his recent retirement as chairman of the board of Sears, Roebuck and Company, General Robert E. Wood made two significant "valedictory" addresses. One was before the Economic Club of Chicago on April 9 and the other before the Chicago Association of Commerce and Industry on April 21. On the latter occasion he was presented with the Association's Man-of-the-Year award. Commerce Magazine has combined the two speeches in condensed form. The foresight that made General Wood one of America's great business leaders is nowhere better demonstrated than in this evaluation of the future of retailing and the future of America.

THE whole picture of retailing has changed in the 35 years since I came to Chicago as general merchandise manager of Montgomery Ward and Company. While the variety stores, some of the older food stores, and J. C. Penney were well established in 1919, the chains as a

➤ Sears builds in outlying areas provides ample parking space. This is Houston, Tex., store.

whole were just at the beginning of their growth.

The department store chains were still relatively small. By a process of steadily absorbing independent stores in many cities and by consolidation, in 1952 the combined sales of department store chains amounted to \$4,422,000,000.

Sears and Wards were purely catalog retailers in 1919, and they never saw their customers. In 1921, Wards started an outlet retail store in its mail order plant in Chicago and by 1924 had seven such stores doing a volume of approximately \$12,000,000. These stores were considered as purely outlet stores by Wards and as such were not susceptible of growth.

In 1925, Sears opened its first store in the Chicago mail order plant on the West Side. The store was located on a side street; it was three or four blocks from any street car or elevated line; it had no show windows. It violated every rule of retail location — but it had a very large parking lot. The store attracted a large business from its opening, has been highly profitable from its beginning to the present time.

From that one store has come the present Sears chain of 704 stores do-



Gen. Robert E. Wood

ing a business of approximately \$2,100,000,000 in the United States in 1953, and 27 foreign stores in Latin America doing a business of \$79,000,000 in 1953. These figures do not include mail order sales or factory outside sales.

## Blind To Auto

Looking backward, it is astonishing that the retailers of the '20's apparently did not realize the effect of the automobile on their business. In every large city, the large stores were grouped in a central shopping district. This existed primarily because all avenues of public transportation funneled into this central district. An outlying store could serve only the pedestrian traffic adjacent to its location, or the traffic brought by one car line — neither one nor even both could support a store of any size.

When the automobile reached the masses, the whole picture changed. The automobile made shopping mobile. The man or woman could take the car and go anywhere to shop (provided there was parking space provided). The retailers of that day

did not see this nor did they foresee the terrifically increased congestion caused by the continually increased number of cars, which made shopping for many in the central shopping district, a burden, not a pleasure.

It was my original idea to locate Sears stores in the outlying sections of the large cities, each store to have a large parking lot. Furthermore, the store was to be a different type of store. The then department store was founded on the woman, 75 per cent of its sales were in some form of

1919 New York City was the headquarters of the retail business. Most of the department store chains, the A and P, the variety chains, Penney, had their headquarters in New York. The rise of the mail order chains changed this picture materially, and shifted the headquarters of at least half the retail trade to Chicago.

In 1953, Sears had 22,000 employees in the metropolitan area of Chicago; its annual payroll in this area was \$75,700,000. The employees in this area had \$109,000,000 to their credit in the profit sharing fund. The com-

mercial labor by machines, have given a large portion of the population an opportunity for travel, recreation and sports. In 1939, for example, 7,858,275 fishing licenses were issued in the United States; in 1953 — 17,652,478. In 1939 — 7,455,000 hunting licenses were issued; in 1953 — 14,832,779. The number of manual laborers has decreased, and this has brought about a great decrease in the number of overalls and work shoes sold.

In the 20's it looked as if the bulk of our people in the big cities would become apartment or tenement dwellers. In the 20's and 30's, the birth rate in most of our big cities dropped to a new low, below that of France. Today, in the suburbs of this and other large American cities thousands of the small ranch type of houses are being erected.

### Building Pattern

For nearly 30 years, very few new large stores had been built in the large American cities. Now new stores have been constructed in nearly every large and medium sized city and town. Old stores have been refurbished, provided with new fronts. New shopping centers, with attractive new large and small stores are going up. Besides the improvement in buildings, there has been a great improvement in store fixturing.

It is axiomatic that our country leads the world in productivity. It is not so generally known that we lead the world in our methods of distribution, our chain stores, independent stores, mail order plants.

Sears has established stores in Cuba, Mexico, Venezuela, Colombia, and Brazil. Few people realize that outside of Sears there is not a department store between the City of Mexico and Buenos Aires, a distance of 4,633 miles. In Rio de Janeiro and Sao Paulo, both cities of 2,500,000 people, there was not a single department store, where goods of all kinds were assembled under one roof. There were thousands of small shops each carrying one or two classes of goods. We put in the first escalator in Brazil.

Even the mechanics of store practice were unknown. Cash registers were almost unknown and it normally took at least 30 minutes to consummate even the smallest trans-

(Continued on page 34)



Sears opened this Charlotte, N.C., store in May, 1949.

women's apparel. Sears founded a store designed for the whole family, the men, the children, the car and the home.

As a result, the balance of sales in our stores was entirely different from that of the regular department store. Hardware, plumbing and heating, refrigerators, washing machines, and sporting goods furnished large portions of our sales, while they represented a very small proportion of the sales of department stores.

### Wards Acts

In 1926, Montgomery Ward and Company started their store system, and for the next three years, it was a race for locations all over the country between Wards and Sears. Later the other mail order houses, Aldens and Spiegels followed suit by establishing retail chains of their own.

Now, I want, as a loyal Chicagoan and Middle Westerner, to digress from my subject for a moment. In

pany paid \$1,800,000 in state and city taxes and it contributed to local causes \$673,000. Goods worth \$311,000,000 were distributed from the Chicago mail order plant and the retail stores in the Chicago area. As the catalog is printed in Chicago, our printing costs and newspaper advertising in this area amount to \$33,500,000.

The combined sales of the four mail order chains with headquarters in Chicago in 1952 were \$4,249,000,000, as compared with total sales of 46 department store chains of \$4,422,000,000. Some of them did not have their headquarters in New York.

Retailing has seen an enormous change in the tastes and buying habits of the American people. The greatest change has come in the last 15 years. The very large increase in the income of the working man, of the farmer, of the skilled artisan, the progressive reduction of working hours and the replacement of man-



# ARE YOU A CLASS 'Z' VOTER?

By **ARTHUR T. LEONARD**

**Our system of electing state legislators is badly out of kilter**

THE Illinois system of electing state senators and representatives has turned thousands of citizens into Class "Z" voters.

If you live in Wilmette—or almost any place else in suburban Cook County—you have only one-eighteenth as large a voice in the election of members of the state legislature as the man who lives immediately southwest of the Loop. In other words, if you want to match voting strength, you would have to find a way to vote 18 times in the same election without getting caught.

Wilmette is in the rambling 7th senatorial district, which runs all the way from Barrington to South Chicago Heights. In 1950 the 7th district had a population of 700,320, but today it is probably closer to 1,000,000. Just southwest of the Loop is the pocket-sized 17th district—population 39,368. Despite the 18-to-1 disparity in 1950 population, the 17th district is represented in the general assembly by one senator and two representatives.

These are the extreme examples,

The author is president of the Chicago Association of Commerce and Industry and president of the City National Bank and Trust Company of Chicago.

but disparity is the rule rather than the exception in Chicago and Cook County. The county has 19 districts. Six of these are the most populous in the state, and five are the state's smallest in population. The combined population of the big six is 2,806,000. They elect 24 legislators. The little five have a population of 256,000, and they send 20 law-makers to Springfield. Simple arithmetic indicates that citizens in the most populous districts have only one-ninth as much individual power at the polls as "little five" residents.

## Topsy-Turvy

Statewide representation is also topsy-turvy. Cook County contains 52 per cent of the state's population, but it is sadly under-represented in Springfield. It elects but 37 per cent of the legislature. In spite of this, the average downstater is still out-voted 3-to-1 by Chicagoans who live in the city's five smallest districts.

The opportunity to end this unfair system of unequally populated districts—and unequal individual voting strength—will be presented at the November 2 general election. It will come on the Blue Ballot re-

apportionment amendment to the state constitution.

To pass, the amendment must jump either of two big hurdles: it must receive a simple majority of all votes cast at the election, or a two-thirds majority from those who vote on reapportionment.

The inequality in Illinois voting rights has been growing more and more pronounced for over half a century. The last time the boundar-

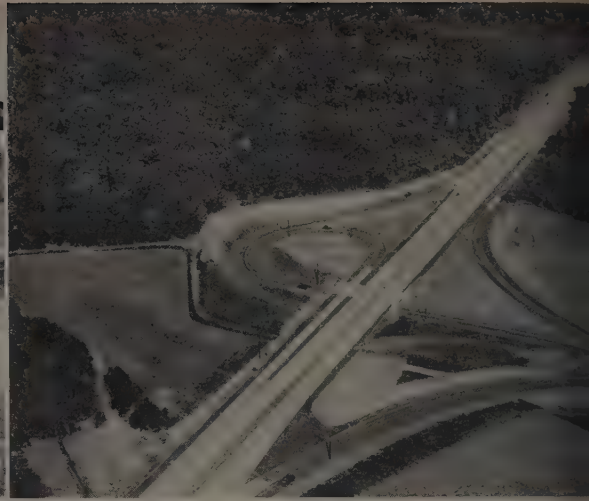
(Continued on page 24)



Arthur T. Leonard



Just ahead: hours of non-stop driving.



A turnpike interchange in the Alleghenies.

## Why We're Building



The new and the old.

**S**INCE the end of World War II, toll highways have sprouted like mushrooms after a warm spring rain. In 1946 there were just two in the entire United States. Today there are toll roads valued at \$673 million operating in nine states. Under construction are some 1,000

miles that will ultimately cost \$1.4 billion. And toll roads amounting to about 3,000 miles have been authorized. The price tag on these future additions: \$3.5 billion!

Obviously, toll roads are big business. But why? How is it that the olden theory of pay-as-you-use has been rejuvenated in this era of high-speed transportation?

"The return of the toll road has been largely the result of failure to apply and adapt other more conventional financial tools to the problems of highway development," declare Wilfred Owen and Charles Dearing of the Brookings Institution.

Says Rear Admiral Francis B. Old, executive director of the newly formed Illinois Toll Highway Commission: "In the last 16 years the nation's motor-vehicle traffic has doubled while we are currently spending only one-sixth of the amount deemed necessary for free road repairs. Toll roads provide states with an opportunity to pay for ultra-modern highways between important centers of population. Due to debt limitations and other factors, toll roads offer the only alternative to increasing inadequacy of our system of free roads. . . ."

Everyone does not agree with the

Admiral's outspoken advocacy of toll roads. In fact, the question of whether motorists should ante up to use a roadway has aroused bitter controversy. The American Automobile Association once expressed the thought that toll road financing represents a return to eighteenth century thinking. The Chicago Motor Club has given toll roads limited endorsement and regards them as a temporary expedient, to be incorporated into the nation's free road system just as soon as possible. The Ohio Farm Bureau has opposed toll roads as uneconomic and undemocratic. Other farm groups have taken the position that user-financed toll expressways would free more money for state improvement of farm-to-market roads.

### By-Passing Feared

Among the most bitter adversaries of the toll road have been businessmen in certain cities by-passed by the new expressways. Their hostility has been based on the fear that through highways take away business.

Recently H. A. Inness Brown, editor and publisher of *GASOLINE RETAILER*, told the American Petroleum Institute that the New Jersey Turn-



Pennsylvania built the first modern toll road.



The Jersey Turnpike gets heavy usage.

# Toll Road Systems

***People are willing to pay for the luxurious  
comfort of driving on a non-stop highway***

**By CHARLES W. KEYSOR**

It takes thousands of cars every week out of the established market away from gas stations off the main and feeder routes. To combat this loss, off-highway stations tried raising prices, then appealed in desperation to the state legislature. Toll road supporters point to the famed Pennsylvania Turnpike, the nation's oldest express toll highway, as proof that toll roads benefit everyone—including the town merchant. Many local groups which fought the turnpike in the late 1930's, now are lost through rerouting of cross-country traffic has been more than made up by increased local trade. Rerouting has left the Main Street of many a town free from congestion and thus more attractive as a shopping area. No motorists object to paying the amount to a double tax for the privilege of using a stretch of

highway? Here again, the Pennsylvania Turnpike provides an answer. The first 160 miles were built on the assumption that motorists would be willing to pay something extra for the speed and convenience of traveling on a turnpike. This proved to be a sound conclusion, and as a result Pennsylvania has built another 167 miles of toll expressway. About 300 additional miles are planned.

## ***Expectation Bettered***

Another index of popularity is the fact that the Pennsylvania Turnpike Commission will retire some of its original bonds 15 years ahead of schedule. This experience has been repeated in New Jersey, where authorities report tolls on the new 118-mile turnpike are 240 per cent above planners' predictions. Traffic engineers figured that this toll road

would carry 8,300 vehicles per day. Now the daily average is 20,000.

As to actual costs, the American Society of Planning Officials conducted a study which showed that toll fees are equivalent to a levy of "approximately 20 cents per gallon of gasoline." This is figured on the basis of one cent a mile paid by passenger cars on most limited-access toll roads.

Indiana, which is currently planning to build a 157-mile link in the 900-odd mile Chicago-to-New York City toll highway, has announced these tentative rates:

- Motorcycles, cars and light trucks, \$1.95.
- Autos with trailers, \$2.40.
- Trucks up to 16,000 pounds, \$3.05.
- Trucks up to 85,000 pounds, \$10.55.
- Busses, \$6.05.

Considering the greater mileage  
(Continued on page 45)

Analysts are treated like visiting royalty because . . .

## THEY HOLD THE KEY TO INVESTMENT

**A** SPECIAL train pulled out of Chicago on an April day two years ago and headed for San Francisco. It was unheralded by the press, and there were no crowds or civic officials to see it off, but visiting royalty never received more attention or better treatment than the special's passengers were given by the nation's top business executives at every opportunity on the way to California and again on the return trip by a different route.

Railroad chiefs hitched their private cars onto the special for the privilege of talking with the passengers and entertaining them. At stopover points and in California, the presidents and board chairmen of big companies arranged trips by boat, bus, airplane, automobile and railroad train so that the special's passengers could inspect factories, mills, refineries, vineyards, power projects, timberlands, laboratories, and the like. There was entertainment too, and luncheons and dinners, provided by the corporate brass.

Mighty important people, these

passengers? Obviously. Busy corporation presidents don't go out of their way to impress inconsequential persons. Yet, most of these travelers were relatively obscure individuals, working for salaries and not in the six-figure brackets, either.

### *Statisticians Once*

They were analysts — security analysts or investment analysts or financial analysts, as you please — from all parts of the East and the Middle West. If your investment experience goes back 25 or 30 years you will remember them as "statisticians," employed mostly by banks and stock brokers. And, as one of their number bluntly stated, they were generally regarded a quarter century ago as not much more than custodians of Moody's Manuals.

The analysts on the special train

were en route to the annual convention of the National Federation of Financial Analysts Societies, an organization founded in 1947.

Why the fuss over "relatively obscure" men and an organization so young? The answer is that the security analysts, more than any other group, are the key to the nation's billions of dollars of investment capital — the life-giving stuff that business and industry must have for growth.

The analysts don't control the capital directly, in most instances but they are researchers and investment experts whose advice is sought and usually followed not only by thousands of individuals but also by those who administer or control the enormous assets in estates, trusts, insurance companies, mutual investment funds, pension and welfare funds, college endowments, and



Analysts see Cleveland by rail . . .



prepare for a birdseye view of Denver . . .

# BILLIONS

her great accumulations of wealth. A nod from the analysts may determine whether a company gets the money it needs for that new plant or for additional working capital. If the company rates highly with them, it often gets needed capital at a saving of hundreds of thousands of dollars, or maybe millions, by comparison with the cost to a company not so well known or not so well thought of. But if the analysts turn thumbs down, the company is going to have a hard time attracting capital.

The writer of an investment banking firm's market letter has described the influence of the analysts as follows: "Few people realize what a tremendous part the security analysts of this nation play in determining price movements of the stock market and the bond market, as well as individual securities. The security analysts, as a group, have a great deal to do with what stocks the individual investor buys or sells. And these big blocks of 70,000 Amerada or 40,000 General Motors or 30,000 Standard

of Jersey which the investment trusts and mutual funds buy and sell are 'master-minded' almost exclusively by some security analysts who lurk in the background. So are the transactions of banks and insurance companies, with whom many of the best known professional analysts are connected.

"In other words, the security analysts 'influence markets' to a great extent. It makes all the difference in

the world, for example, whether the analysts as a whole 'like' the chemicals or don't 'like' the chemicals, or whether they favor the oils or don't favor the oils. Also, they separate the 'good' stocks from the poor stocks in each group. Many analysts roam all over the nation making field surveys first hand, visiting companies and their plants and interviewing managements."

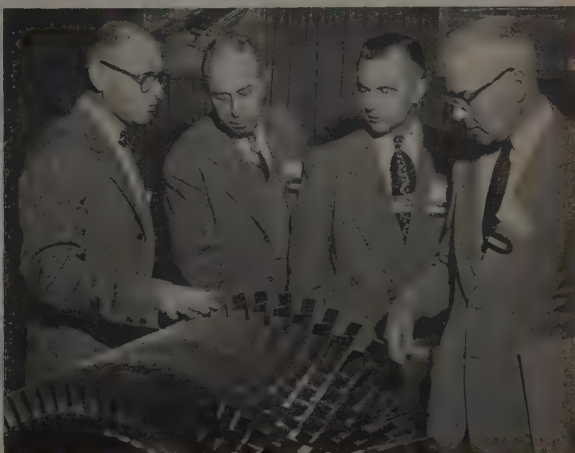
Even company executives with no



Pure Oil took analysts miles out into the Gulf of Mexico to see this natural gas installation.



... a plant inspection tour . . .



and take a close look at a jet engine part.



Planning last minute details of the 1954 convention of the National Federation of Financial Analysts Societies in the Palmer House, Chicago, May 17-20, are, left to right: Arthur J. O'Hara, vice president, The Northern Trust Company; Dr. Corliss D. Anderson, partner, Duff, Anderson and Clark, security analysts; Albert Y. Bingham, vice president and director, the Chicago Title and Trust Company; M. Dutton Morehouse, manager, Brown Brothers Harriman and Company; Glenn R. Miller, partner, Crutten and Company, investment securities; Wayne R. Bennett, vice president, trust department, Continental Illinois National Bank and Trust Company of Chicago. Morehouse is general convention chairman and Bingham is program committee chairman.

present thought of seeking new capital are anxious to cultivate the goodwill of analysts. A "buy" recommendation by an influential investment advisory service may produce a price rise of a full \$1 per share, or more, for the stock of a medium sized company. Thereafter the market for the stock probably will be broader than before, tending to make the price hold up at a higher level than it otherwise would. Commonly the corporation executive holds stock in the company he manages, and probably it represents the bulk of his fortune. It's important to him that the stock shall have a broad and active market, for it gives him the opportunity to liquidate some of his holdings at the best possible price if the need should arise or if he wants to obtain diversification.

### *Vie to Appear*

Thus, both business and personal considerations help to explain why corporation executives who refuse scores of invitations to make speeches will vie with one another for the privilege of appearing before an analysts' convention or a luncheon meeting of a local analysts' society. "No longer does any analyst society have to seek out and plead with corporations for speakers," said Richard W. Lambourne, retiring president of the National Federation, at the 1953 convention. "They are literally beating at the doors for the privilege of appearing. Some

company executives even make the circuit of societies regularly." Investment bankers have been known to try pressure tactics to get a speaker before an important group of analysts to prepare the way for a public offering of securities.

### *Special Attention*

Analysts don't have to come in bunches, as in meetings or conventions, to get attention from the big brass of business. The individual is welcome in the executive's office, and he can make a private tour of the plant and quiz the company's officers without the presence of other analysts. The more cautious managements permit only top officers to talk with analysts, presumably because it is important that they be given only exact information and precise interpretations of policy.

As a general rule, nothing is too good for analysts, but there are exceptions. "A few executives won't tell analysts anything, but they are becoming fewer and fewer," says M. Dutton Morehouse, executive vice president of the National Federation and a manager in the Chicago office of Brown Brothers Harriman & Co.

It's risky business for a company to welcome analysts with open arms unless it can stand close scrutiny. The analyst is trained to look for evidence of management's competence in every phase of a company's affairs. Poor housekeeping in a fac-

tory, for example, will be noticed just as quickly as a weakness in the balance sheet. The analyst is interested in management's compensation, in the way the income account is stated, in the way a company explains its program and activities to stockholders in the annual report and interim reports, and in countless other facts, figures and impressions.

Kennard Woodworth, vice president and director of Eaton and Howard, Boston investment fund manager, and first president of the National Federation of Financial Analysts Societies, has described the qualifications an analyst should have:

"He is a scientist — at least he has a speaking familiarity with most branches of science and industry.

"He is an engineer — he may not be able to operate a turret lathe or figure stress analysis or lay out a power station, but he knows a good and efficient plant when he sees one.

"He is familiar with labor relations. He is probably an accountant of sorts — at least he reads and understands income statements and balance sheets.

"Understanding taxes is relatively simple for him. He must be an author and sometimes even a salesman. He must combine the orderly mind of the statistician with the intuitive reasoning of the psychologist.

"He should be a well-read scholar and he always must be polite. He is the close confidant of top business management. He never stops working, thinking and dreaming. . . ."

### *Saved Millions*

Millions of dollars have been saved by investors because the probings of analysts uncovered fraudulent activities of unscrupulous management and the analysts are duly proud of this service. They are even proud of the influence they are exerting to improve the practices of managements whose integrity is unquestioned.

A year ago the National Federation riled bankers when a committee brought in a report sharply critical of the annual reports of many large banks and trust companies. However, the next annual reports of a number of big banks were improved.

(Continued on page 44)

# OFFICE MAGIC — VIA ELECTRONICS

A JET plane, traveling at the speed of sound, needs about a thousandth of a second to cover a foot. But in even less time, an electronic computer can multiply two 10-digit numbers.

Because of their speed, these vacuum tube wonders are performing a host of jobs for science and business that seem no less than miraculous. There's a well known partial differential equation used in designing airplane wings. It requires eight million calculations. One man, working with a desk computer, needs seven years to find the answer. An electronic computer can do the problem in a few minutes.

## Predicts Landslide

On election night in 1952, an electronic computer accurately predicted the Eisenhower landslide when only 5 per cent of the total vote was in. During construction of

the Nautilus, the nation's first atom-powered submarine, an electronic computer kept track of job progress. This meant changing some 9,000 separate bits of information every month.

Last year, the American Newspaper Publishers Association asked an electronic computer in effect, "How will business be in 1954?" The computer, after analyzing the sales patterns of 28 basic department store commodities during 1941-1952, came up with the answer in three and one-half minutes.

"The same series of computations performed by the human mind would require over 200 man-hours," reported ANPA. Incidentally, the computer discovered that seasonal buying patterns during 1954 will duplicate those of 1952, in most cases with a variation of only a fraction of a percentage point.

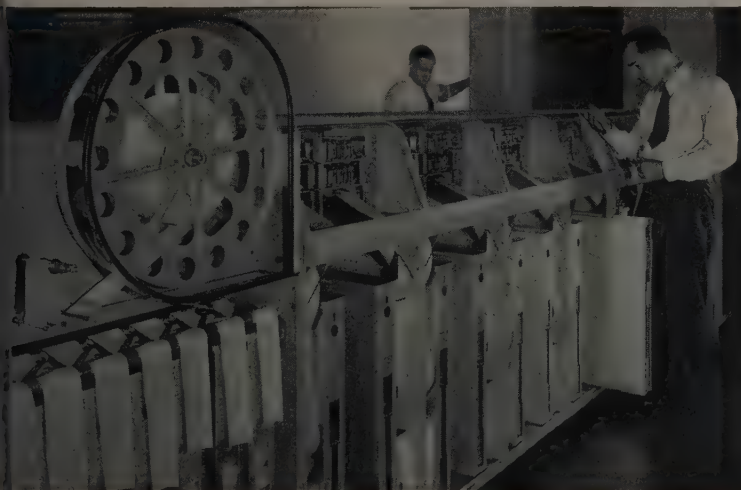
Routine office jobs are admittedly less dramatic, but the accomplish-

ments of the electronic computer are no less amazing. The Pennsylvania Railroad uses three computers to make out paychecks for about 28,000 employes twice a month. Those wages are figured in any one of 60 different ways, depending on the recipient's job, where he works, and how long he works, among other factors.

## Complex Chore

The income tax calculation for train crews is particularly complicated. In the course of a day's run, a trainman may pass through several states and cities that impose income levies. Their laws require him to pay taxes based on the number of hours and minutes he spends in each place. Although the formula required to convert this time into dollars-and-cents deduction varies with almost every political subdivision, the computer is able to figure the time and make the conversion automatically in less than a minute.

International Harvester uses an electronic computer to determine foundry costs and collateral costs on thousands of items exchanged among the company's divisions. To complicate the job, the computer must recognize the presence of three conditions affecting the casting price. The computer must also add a "cost of warehousing" to castings retained, and a 10 per cent markup for those shipped to other divisions. The job once required 700 man-hours, and was a tiring task for the several clerks who had to work overtime to



Mois Bell's intricate tape-punching equipment, which records information about thousands of phone calls, operates with the aid of electronic computers.



Remington Rand's Univac sorts facts to predict '54 department store sales trends.

The Pure Oil Company electronic computer performs about 70,000 calculations a month. One job formerly took 240 man-hours; the work is now finished in six to eight man-hours. Sears, Roebuck and Company uses a computer to analyze the buying habits of mail order customers. What formerly took 4,400 clerk-hours is now accomplished in 55 hours by the computer.

### Phone Company Aid

In addition to its AMA-automatic message accounting machines—developed by the Bell Telephone Laboratories, Illinois Bell has assigned computers to the job of figuring “additional message” charges accumulated by about a million telephone users every month.

An electronic computer, basically, consists of three parts. One part “reads” the information brought to it from outside the machine, another part does arithmetic, and the third stores the answer. Almost always the problem involves more than one computation, so the third part of the machine stores intermediate answers as well as the final one. The three parts are known, respectively, as the “input unit,” “the arithmetic unit,” and the “storage unit.”

On the typical computer used for commercial purposes, the input and output consists of keypunch cards. These are the same keypunch cards that have been around most offices

for many years. Numbers or letters are read, usually across the card, by looking at the position of punched holes in vertical columns, one column for each digit of the number or letter of the word.

The electronic computer obtains numbers for problem solving from two other places, besides the keypunch card. One is the storage unit where intermediate answers are kept. The other place is also inside the machine, but is not a part of the storage unit. This part holds constants—such as the figure .18, a percentage used in computing withholding tax.

One typical computer can hold up to 12 ten-digit numbers in its storage unit, and can read, in addition, up to

36 “non-storage factors”—that is, numbers printed on the input keypunch card or set up as constants inside the machine.

The numbers used by the machine, although they stand for the ones you would use in solving the problem, don't look the same. Computers use what are known as “binary numbers.” This is a system which enables you to express any number in terms of ones and zeros. Here is the way binary numbers look:

Decimal System Number	Equivalent Binary Number
2	10
3	11
4	100
5	101
6	110
7	111
8	1000
9	1001
10	1010
11	1011
12	1100
13	1101
14	1110
15	1111
16	10000

Note, that as you go down the left-hand column, each time the number two is raised to a higher logarithmic power, the number of digits in the binary equivalent increases by one.

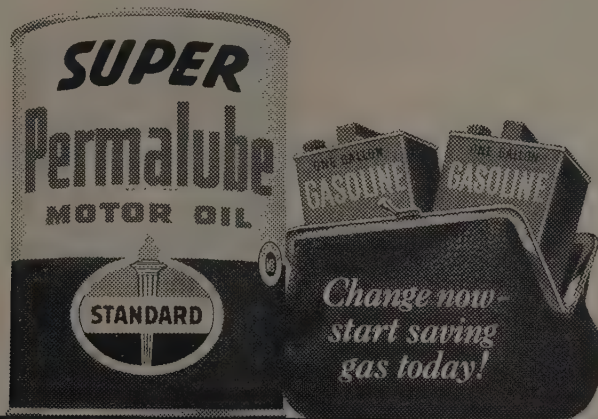
Now, instead of numbers, imagine that the right-hand column is filled with vacuum tubes. A vacuum tube

(Continued on page 26)



The largest electronic computers consist of several units and take up a whole room. This IBM model can multiply and divide more than 2,000 times a second.

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## Are You A Class "Z" Voter?

(Continued from page 15)

ies of the senatorial districts were redrawn to provide roughly equal population and equal representation was in 1901. Since then the legislature has continuously ignored a requirement of the state constitution that calls for reapportionment every ten years.

In 1901, Cook County's population was 1,839,000 compared with 2,983,000 downstate. On this basis, Cook was allotted 19 districts and downstate got 32. The districts have remained unchanged ever since, in the face of the vast growth and shift of population.

The legislature's failure to observe the constitutional requirement to reapportion reflects the reluctance of downstate farming interests and rural communities to turn over control of both the house and senate to Cook County. The downstate attitude has been abetted by the underpopulated Chicago districts whose political leaders don't want to lose any of their unjustified power.

Meanwhile, any compromise was blocked because the legislature was saddled with a state constitution that was virtually unamendable. Finally, in 1950, concerted non-partisan effort brought passage of the all-important Gateway Amendment. It eased the requirements for constitu-

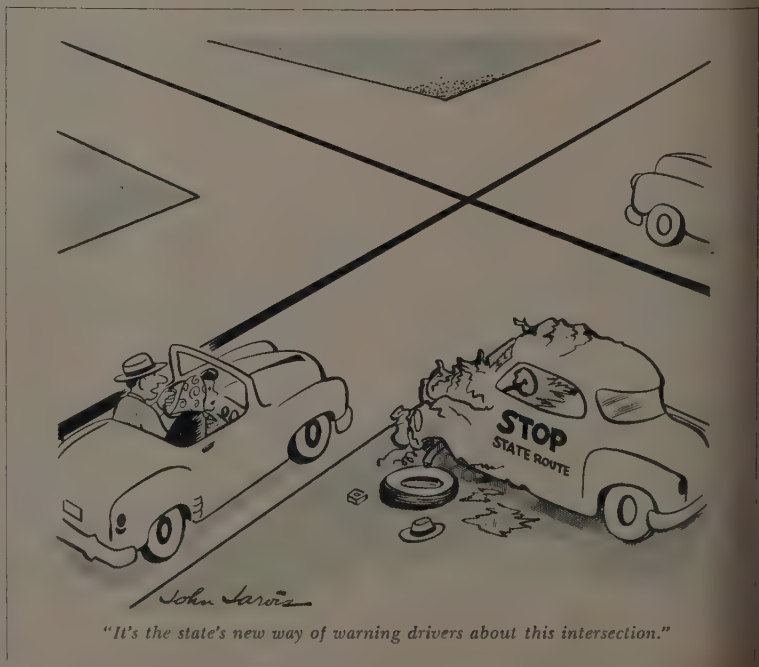
tional revision and opened the door for a possible compromise on reapportionment.

Governor Stratton made good his 1952 campaign pledge to support reapportionment and used his influence to get the legislature to approve a compromise amendment and place it on this year's November ballot.

The compromise gives control of the house to Cook County and leaves a downstate majority in the senate. This arrangement seems both fair and politically realistic. Not many Chicagoans would want Cook County to dominate both branches of the legislature, nor would such an amendment ever pass. To a considerable degree, the proposed compromise is patterned on representation in the U. S. House of Representatives and the Senate.

If the Blue Ballot amendment is ratified by popular vote next November, this is what will happen:

The 51 old districts will be dropped, and the state divided into 59 new representative districts, based on population, and 58 new senatorial districts, based primarily on area. In creating the new types of districts, the amendment divides Illinois into three compartments:



"It's the state's new way of warning drivers about this intersection."

Chicago, suburban Cook County, and downstate.

Reapportionment will give 23 representative districts to Chicago, seven in the suburbs, and 29 to downstate. This is substantially in accordance with their present populations. It presents a gain of five districts for Chicago, six for the previously under-represented suburbs, and a loss of three for downstate. Again in 1963 and at ten-year intervals hereafter, the legislature will be required to revise the districts so that all citizens will continue to have voting powers that are as nearly equal as possible. No district will be permitted to have less than four-fifths the average population of all districts. The downstate districts will be bounded by county lines unless the population of any given county is large enough to entitle it to more than one district.

### 18 for Chicago

In the senate, Chicago gets 18 seats, the suburbs get six, and downstate gets 34. By this division, the suburbs gain five senators and downstate gains two, while Chicago's representation remains unchanged. However, the new Chicago districts will not conform to the old boundaries. With primary consideration being given to area, the five old pocket-sized districts could almost be contained in one of the new. The Chicago districts, while comparable to each other in area, will of course be considerably smaller than the suburban and downstate senatorial districts.

If the amendment passes and the legislature drags its heels in re-districting the state, the governor is required to appoint a commission to finish the job. If the commission can't agree, then at the next election all candidates for the legislature will face a distasteful prospect: they will have to be nominated and elected from the state at large. This is a tactical guarantee that the legislature will solve the re-districting problem by itself.

Why will reapportionment improve the quality of the legislature? For years the balance of power in the general assembly has been held by the smallest Chicago and downstate districts. Minority domination has produced misrule. It is not necessary to look beyond Chicago for an



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example. Our West Side bloc, which draws its strength from the small districts, has consistently worked against and frequently been successful in defeating forward-looking legislation. The bloc fought like wildcats against the Crime Commission bills and until recently was effective in defeating them.

Reapportionment will trim the West Side bloc's gross overrepresentation down to proper size. This in turn will create a vastly more favorable atmosphere for such essential measures as judicial reform and some form of home rule legislation for Chicago.

There is nothing partisan about the reapportionment amendment. It has received the endorsement of the major leaders in both parties. It is supported by such diverse groups as the Chicago Association of Commerce and Industry, the Illinois State Chamber of Commerce, the Illinois State Federation of Labor,

the Illinois State Industrial Union Council (CIO), the Illinois and Chicago bar associations, and various voters and civic groups.

It is highly important that within the next few months the need for the amendment be discussed before as many people as possible in offices and factories. The non-partisan nature of the issue makes it possible for businessmen to carry the message back to their associates and their employees.

A negative vote of only 34 per cent can defeat the amendment. While the opposition may remain under cover, it is sure to be well organized by those who stand to profit from retention of the inequitable old system.

The Association of Commerce, other civic organizations and many individuals are contributing to the support of the Illinois Committee for Constitutional Revision with headquarters at 230 S. Clark street.

This organization stands ready to send effective speakers to your company or to the civic organization or club to which you belong.

Attorney Samuel W. Witwer, Jr., is chairman of the committee. A Treasury Department ruling that contributions to the committee's work are deductible for income tax purposes is momentarily expected.

Reapportionment can be a turning point in Illinois and Chicago history. It is the way to improved government, and it is ours to accept or reject. The amendment is so necessary that the man who does not get out and work actively for its passage is avoiding his duty. Merely favoring it is not enough.

## Computers

(Continued from page 22)

is a lot like an electric light switch. It is either "on" or "off": the tube will either pass current or it won't. If the tube is conducting current, we can say that it stands for the number "one"; if the tube is not conducting, we can say that it represents "zero."

With the aid of the binary numbering system, it is possible to represent any decimal number in terms of a collection of vacuum tubes, some of which are on and some of which are off. Adding, subtracting, multiplying, and dividing a set of numbers involves hooking up the equivalent tubes in such a way that other tubes will be turned on and off in a pattern that represents the answer. This, in brief, is what happens inside an electronic computer.

The programming—the designation of the particular sets of tubes that are to be hooked up to each other—is taken care of at the beginning of the problem. Wires are plugged into a control panel that looks something like a telephone switchboard. In effect, this is the same thing as inserting addition, subtraction, multiplication, and division signs in a line of figures written across a blackboard.

The computer usually begins the problem by "reading" a number from the input punched card. All this means is that, because of the holes in the card, an electronic pulse can be generated. This pulse, together with others flowing through the card during the course of the problem, switches the storage tubes

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on and off to represent various intermediate answers. As the storage tubes change from one position to the other, they also generate pulses. Thus, the final answer to the problem represents the intersection of pulses from the card and from the storage units (as well as pulses generated by the constants set up in the computer).

To illustrate how electronic computers work, let's look at the computation of a weekly payroll stub which lists the following items: gross pay, withholding tax, social security tax, total taxes withheld, and net pay.

Each of us receives a \$600 annual tax exemption for ourselves and each of our dependents. For purposes of a weekly payroll, an exemption figure of \$13 is used.

To find an employee's taxable weekly earnings, you have to multiply the \$13 by the number of his exemptions. This figure, in dollars, is then subtracted from his gross weekly earnings. The result is then multiplied by 18 per cent to find the amount of withholding tax for the week.

What we have said so far can be reduced to an algebraic formula:

$\$13 \times \text{number of dependents} =$   
Week's withholding tax exemption

Week's gross earnings - Week's  
WHT exemption = Week's tax-  
able income

Week's taxable income  $\times .18 =$   
Week's withholding tax

or:

$$A \times B = C$$

$$D - C = E$$

$$E \times F = G$$

Only the first \$3,600 of an employee's income is subject to social security tax. If he has earned less than this amount, the tax is figured by deducting 2 per cent of the week's gross earnings.

Once the week's withholding tax and the week's social security tax deductions are known, the rest is easy. Adding the two amounts gives total taxes withheld, and subtracting this figure from week's gross pay gives net pay for the week.

When the computer takes over this problem, it goes through each step described above. In the withholding tax formula, A and F are constants, and D are obtained from the input keypunch card, and C, E, and G are oranges. Likewise, in the computation of the social security tax deduction, the figures \$3,600 and .02 are

constants, gross earnings to date are obtained from the input keypunch card, and week's gross earnings as well as the answer, week's social security deduction, are storages.

The circuits are hooked up in such a way that the tubes representing the final answer (net pay), as well as those representing the intermediate answers (withholding tax, social security tax, and total taxes withheld) are "turned on" and "turned off" to represent the binary equivalents of the answers you would obtain by doing the problem on paper.

The computer checks itself by performing each step in the problem backward and forward. For example, besides multiplying  $A \times B$  to get C in the withholding tax formula, the computer divides C by B. If the answer isn't A, the computer does the operation over and over again. Once in a while, because of mechanical difficulty, the two answers don't jibe. A change in the rhythm of the clicks coming from the machine, or an automatic warning signal, announces the trouble.

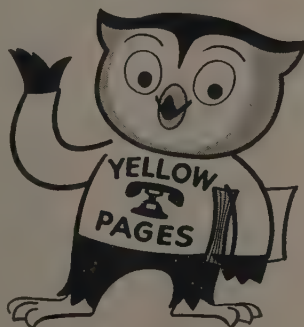
In figuring the social security tax



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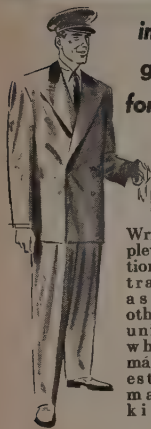
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deduction, the machine first subtracts gross earnings to date from \$3,600. If the answer is negative (meaning the employee has earned more than \$3,600), the machine stops trying to figure the tax and passes on to the next computation. If the answer is positive, the computer multiplies week's gross earnings by 2 percent to obtain the week's social security deduction.

In our example, the problem is finished when the computer has punched the net pay figure into the output card. All storages are then erased, the computer reads the information from the next input card, and goes through the same problem again. Each time, of course, in addition to the final answers, it punches the intermediate answers — which, in our example, would be gross pay, withholding tax, social security tax, and total taxes withheld. (In the interest of brevity, we have assumed, in the above example, that the employee's gross pay is punched into the input key-punch card. Actually, it would probably be figured by the computer as part of the payroll calculation.)

When the run is finished, the figures on each output card can be used to print paychecks. This feat is accomplished with the aid of a tabulator, a glorified typewriter and bookkeeping machine, which prints

the number or letters denoted on the card. The same card can be used to prepare a summary of the withholding taxes paid by the company's work force. This job would require adding together one of the intermediate answers on each card in the group.

A total statement of gross pay, net pay, or any of the other figures on the output card could be obtained in the same way.

The data for each check, of course, is computed in less time than it takes to read this sentence. On a payroll computation like the one described above, a typical electronic computer will punch about 200 output cards a minute.

Neither the computer's speed nor its ability to furnish intermediate, as well as final results, are particularly new wrinkles. For years, electro-mechanical and mechanical calculators and computers have been supplying more than one answer to a problem, and at speeds beyond the abilities of humans working with paper and pencil.

The electronic computer's advantage, however, lies in the fact that it can supply more answers, at faster speeds, than anything developed to date. As Harold Price, manager of the systems department of Price Waterhouse and Company put it: "The entry of electronic computers into



"Maybe it's a case for the F.B.I. Most of the money would have gone to the government eventually."

office procedure does not signify a revolution, but rather an evolution."

The question for any businessman is whether the increased speed and more detailed answers possible with electronic computers are worth the outlay. At the present time, this outlay is sizable.

About a dozen companies make computers. The biggest units are manufactured by Remington Rand and International Business Machines. Remington Rand's UNIVAC (universal automatic computer) was the machine used to project the early election returns in 1952 and ANPA's sales forecast. The IBM model 701 has been used mainly by engineers and scientists to date, notably to figure the partial differential equation involving eight million calculations which was mentioned earlier.

### 3 Storage Units

Information can be fed into or taken out of both units either on keypunch cards, magnetic, plastic, or paper tape. Also, each machine has three kinds of storage units — a cathode ray tube, a magnetic drum, and magnetic tape. Because the tape can be stored outside the machine until it is needed, the storage capacities of these computers are, in effect, unlimited.

Everything about these gadgets is tremendous. A whole room is usually required just for the equipment. And a veritable flood of information pours out when the machines go to work. Either the UNIVAC or IBM's 701 can provide 1,050 ten-digit answers a minute on a high-speed printer, or 2,400 ten-digit answers a minute on keypunch cards. A magnetic drum storage unit holds from 5,000 to 10,000 numbers, depending upon its size. Any of these numbers can be read or written in a few thousandths of a second. The cathode ray tube storage unit operates even faster. It can be read or written from in a few millionths of a second. And 3,000 feet of magnetic tape can store as many as 20,000 records of 80 digits each.

So far, only a handful of companies are using either unit. General Electric has a UNIVAC at its vast general appliance plant in Louisville. Metropolitan Life is understood to have one on order. And Remington Rand has set up a UNIVAC in its New York office, which is available on a rental basis.

The price is about \$350 an hour. IBM's 701 is not for sale, but is being leased. Prices range from \$11,900 to \$15,000 a month.

At the other end of the price and capacity scale are Remington Rand's model 409 and IBM's model 604. Most of the companies thus far that have acquired electronic computers are using one or the other. The 409 can be purchased for either \$69,000 or \$95,000, depending on the type you want. It can be leased for either \$690 or \$1,000 a month, depending, again, on the type. IBM's 604 can be leased for about \$550 a month.

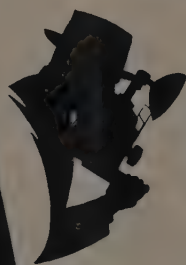
Either machine can handle a problem including up to 40 separate computations, and can use the equivalent of more than ten 10-digit numbers (excluding "non-storage factors") in finding the answer. Each computer is capable of punching several hundred output cards a minute.

Between Remington Rand's 409 and UNIVAC, IBM's 604 and 701, are several other computers with intermediate capacities. For example, IBM makes the 607, CPC, and 650, all available on a lease basis, at \$800, \$1,775, and \$3,250 a month respectively.

In addition to these two manufacturers, several other firms are making computers, most of which are roughly comparable to either the 409 or the 604. Among these are Marchant's MINIAC, Underwood's ELECOM, National Cash Register's CADAC, and Monroe's MONROBOT. Each of these machines can be purchased for anywhere from \$60,000 to \$100,000.

The manufacturers realize that they still haven't produced an electronic computer that every company can afford. IBM officials and others who should know say that such a machine will be forthcoming in from three to ten years. However, even now, according to Price Waterhouse's Harold Price, who has been keeping tabs on electronic computer development for the past 15 years, there are a lot of firms with office routines detailed enough to permit the use of electronic computers.

And, as IBM pointed out recently, "Successful application of the faster, more versatile business machines of tomorrow rests squarely upon the ingenuity and capability developed in applying the machines of today."



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## PIGGY-BACK RAMP

A NEW loader in the fast growing "piggy-back" movement of highway trailers by flat cars was announced by Miles L. Abel, executive vice president of Magnesium Company of America, East Chicago, Indiana, leading manufacturer of magnesium materials handling equipment.

The ramp was developed in conjunction with Brandon Equipment Company, Chicago railway supply and engineering firm, to add speed and flexibility to the existing railroad practice of loading trailers over a fixed, permanent ramp onto flat cars. This practice commonly is called "end loading," because all the trailers must pass over this fixed ramp onto the first flat car and then be moved to the next car and so on until the complete string of cars is loaded. A fixed ramp must be located at the end of a stub or dead end track.

"Magcoa's ramp can be placed in operation at any point along the track where the trailer loading or unloading is being done, at either or each end of the string of flat cars and at any point where it is desir-

able to break the string to accommodate a ramp," Abel said, "thus, the loading time of the cars is sharply reduced."

The ramp is said to enable the railroad to obtain a high degree of selectivity in picking out the trailers it desires to unload first. This feature will reduce some of the materials handling problems that piggy-back freight service has created, and will help insure the speeding of freight to the consignees' doors.

The first Magcoa ramp was placed in service by the Chicago and North Western Railway in Milwaukee simultaneous with the inauguration of its overnight rail highway service between Chicago and Milwaukee.

The ramp, of welded construction, is the largest single unit ever fabricated from magnesium, the lightest of the structural metals, according to Abel.

Magcoa pioneered the magnesium dockboard, which bridges the gap between loading docks and boxcars and trailers, as well as the yard ramp which is used for un-

loading boxcars and trailers from round level.

The 45 foot long Trailer ramp is nine feet wide but flares to 11 feet at ground level to permit easy approaches and turns by the trailers. Weighing only 4,800 pounds, the ramp is designed to take the heaviest loaded trailer. When positioning the ramp with the flat car, it is raised or lowered by means of a manually operated hydraulic system. Anchor stakes fit into sockets on the end of the flat car to secure the ramp.

The ramp moves on rubber tired wheels, and is equipped with a detachable tow bar for attachment to a standard tractor to facilitate movement in the rail yard. The use of magnesium permits positioning of this 45 foot ramp by two men. Nine inch high curbs on the ramp are designed to prevent runoff and excessive tire wear.

## Here, There and Everywhere

(Continued from page 8)

making industry reached a record 35.6 billion last year, according to the American Can Company. The output represented an increase of 6.2 per cent over 1952 and was almost double the 1939 production. No one encouraged us to make the calculation, but 35.6 billion cans of 4-inch height laid end to end would reach 3,300,000 miles — or ten times the distance to the moon.

**Cooling Cost Estimator**—Carrier Corporation says it can now predict within 8 per cent or \$10 for the season how much it will cost to operate an air conditioning system in your home, no matter where you live. The method is based on a cooling degree-day concept similar to the heating degree-day long used to calculate heating costs. Over the past two years the company has installed batteries of instruments in houses spotted all over the country. Cooling a 1,200-square-foot, \$15,000 to \$20,000 house runs from \$40 for the season in New York and Washington to \$60 in Atlanta, the company said.

**Direct Mail Facts** — Although it contains only 3 per cent of the nation's population, Chicago originates 22 per cent of the third-class mail in the United States. This fact was an-

nounced by the Chicago Direct Mail Day Committee in connection with its May 7 conference at the Palmer House on ways to improve the effectiveness of advertising by mail. The announcement placed an annual valuation of \$200 million on third-class advertising pieces originating here. Nationally, in 1952 the Post Office Department handled 11.6 billion third-class pieces against 4.4 billion in 1944. Direct mail expenditures in 1953 totaled \$1.2 billion, or 14.3 per cent of the nation's advertising dollar.

• **Scale Model** — A scale model of an atomic plant will be displayed by North American Aviation Company in September at the First International Instrument Congress and Exposition in Philadelphia. The display will include a cross section of a nuclear reactor and an attached steam turbine. North American is preparing to build a \$10 million pilot plant to study atomic production of electrical power for industrial uses.

• **Operations Research** — Now in session at the University of Chicago's school of business is Operations Research, a weekly seminar for engineers and other technically trained persons who are in or aspire to management positions. The course, conducted by Dr. Thomas E. Caywood of Caywood-Schiller Associates, stresses the recent application

of analytical techniques to decision-making. Among the problems to be dealt with are production programming where demand is seasonal and may be affected by the weather or other relatively unpredictable causes; scheduling of raw materials when substitution is possible; allocation of sales effort; factory location; analysis of equipment failures, and plant renovation policy.

• **Dangers from Within** — The five greatest dangers that threaten businesses from within are listed by the William J. Burns International Detective Agency, Inc., in its pamphlet, "It Takes More Than Fences." They are: 1) the systematic theft of goods, tools, or raw materials by workers; 2) collusion with your competition by employees; 3) the hiring of undesirable persons who use fictitious names to secure employment, and those who conceal or falsify their former records; 4) the loss of man-hours through unreported absenteeism, faked time cards, idleness of individual employees, incompetent or wasteful supervision, and 5) the unrecognized presence of hazards to worker safety that could lose man-hours and cost much in employee compensation.

• **Express Anniversary**—Although the express industry is celebrating its 115th anniversary this year, it was a mere 109 years ago that the first express shipment reached Chicago,

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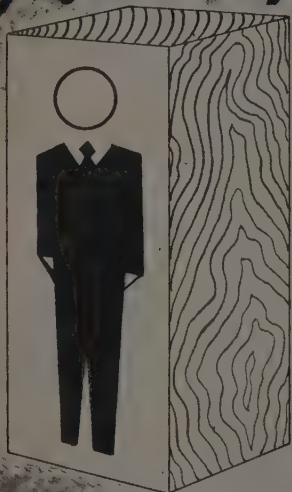
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For Illinois State Employment Service offices located outside Chicago, consult your telephone directory.



## ILLINOIS STATE EMPLOYMENT SERVICE

according to J. A. Jakes of the Chicago office of the Railway Express Agency, Inc. By 1856 Chicago had its first express office at Dearborn and Lake Streets. The personnel included William Fargo of Wells Fargo fame and two clerks. Three oxen-drawn wagons were used for pick up and delivery service. No Railway Express employs 5,000 persons in Chicago and keeps 1,200 vehicles on the move. Over a million rail shipments in and out of Chicago are handled each month, and air express shipments are at a monthly rate of 60,000.

• **Soft Drink Flood?** — The president of the Dr. Pepper Company sees a possibility that per capita consumption of soft drinks can be increased from its present figure of less than half a bottle a day to three or more bottles a day. Writing in the Investor's Reader, Leonard M. Green says that proper promotion and the strengthening of bottler organizations hold the key to future increase. Currently, he says, one of the continuing boosts to soft drink demand is the relatively low price.

• **Take the Key Out!** — Think twice before you park your car and leave the engine running while you step into a drug store for a package of cigarettes. Not only is there a risk of the car being stolen, but the Illinois Supreme Court has recently added another hazard. It ruled that a cab company whose driver left the engine running was liable for damages caused when the cab was stolen and the thief collided with another car. According to Commerce Clearing House, the Illinois decision represents a break with tradition. An opposite result in keys-in-car cases was reached in Massachusetts and Minnesota.

• **Women's Feature** — The Investors Guide department of the Chicago Tribune has started a weekly feature titled "In the Women's Corner," published in the paper's financial section on Mondays. "A large proportion of public-owned corporation securities is held by women or for their benefit in trust accounts," the newspaper said. The articles will deal with investment rules in simple language and are intended as a primer for investors.



# Industrial Developments

... in the Chicago Area

INVESTMENTS in industrial plants in the Chicago area totaled \$18,813,000 in April compared with \$7,642,000 in April, 1953. Total investments for the first four months of 1954 stood at \$84,231,000 compared with \$52,602,000 in the same period in 1953. These figures include expenditures for the construction of new industrial plants, expansions of existing buildings and the acquisition of land or buildings for industrial purposes.

**Republic Steel Corporation** is expanding the capacity of its seamless tube mill at its South Chicago Works from 186,000 tons annually to \$12,000 tons a year. The multi-million dollar program will include a billet heating furnace, piercing mill, a plug mill and other facilities.

**Ditto, Inc.**, 2243 W. Harrison street, which operates two plants in the Chicago area, is erecting a new one and two-story factory at the corner of McCormick road and Pratt boulevard, Lincolnwood. The structure, which will contain 300,000 square feet of floor area, will be located on an 18 acre site. Ditto manufactures duplicating equipment and supplies. Battey and Childs, engineers.

**Metro Glass Company**, Jersey City, N. J., is constructing a bottle works on a 10 acre site at 138th street and Cottage Grove avenue, Dolton. J. H. Van Vlissingen Company, broker.

**F. E. Schundler Company, Inc.**, 4 Railroad street, Joliet, is constructing a plant for the manufacture of plaster board southwest of Joliet.

**Universal Oil Products** has started construction of a research

laboratory which will be added to its main administrative and engineering building in Des Plaines. The expansion will contain approximately 70,000 square feet of floor area. Sherman Olson, Inc., general contractor; Olsen and Urbain, architects.

• **Photopress, Inc.**, 731 S. Plymouth court, is constructing a plant on a 4½ acre site adjacent to the Congress Street Expressway in Broadview. The one-story building, which will contain 80,000 square feet of floor area, will be completely air conditioned with controlled humidity in all press rooms and processing areas. J. J. Harrington and Company, broker; Graham, Anderson, Probst and White, architect; Sherman Olson, Inc., general contractor.

• **Revere Copper and Brass, Inc.**, which operates two divisions in Chicago at 2200 N. Natchez avenue, has acquired the plant near Lockport formerly occupied by the Globe Corporations. Revere will use the building for the manufacture of copper tubing, rolled mouldings and other rolled copper and brass products.

• **All Steel Equipment, Inc.**, is adding a 75,000 square foot structure to its plant in Aurora. The company manufactures filing cabinets, steel office furniture and lockers. Johnson and Johnson, architect.

• **Illinois Tool Works — Shakeproof Division**, is constructing an addition to its plant in Des Plaines. J. Emil Anderson and Son, general contractor.

• **Inlander Brothers Paper Company**, 6009 S. Wentworth avenue, is erecting an industrial building at 7701 S. Claremont street. The build-

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ing will contain 21,000 square feet of floor area. Fridstein Engineering Company, engineer.

• **Iden Manufacturing Company, Inc.**, 1805 N. Milwaukee avenue, has purchased the two-story building at 650 N. Kedzie avenue which contains 32,000 square feet of floor area. The company makes furniture pads, covers and other canvas products. Sturm Bickel Corporation, broker.

• **The Lehon Company**, manufacturer of roofing products, is building an office building at the northeast corner of Madison avenue and 25th avenue, Bellwood.

• **Service Machine Company**, 7629 S. Ashland avenue, is erecting a one-story plant at 2310 W. 78th street. The company manufactures punch presses.

• **Chicago Saw Works, Inc.**, 5038 S. Wentworth avenue, is building a plant at 6130 S. Oak Park avenue which will contain approximately 10,000 square feet of floor area. Clearing Realty Sales, Inc., general contractor.

• **Florence Manufacturing Company**, 6018 S. State street, is erecting a factory building at 8910 S. State street, to which it will move its entire operations. The company manufactures apartment house mail boxes.

• **Leaf Brands, Inc.**, gum manufacturer, operating four plants in Chicago, is planning a top addition to its plant at 1155 N. Cicero avenue. The proposed expansion will contain 9,000 square feet of floor area.

• **York Tool and Manufacturing Company**, 404 S. Kolmar avenue, is erecting a factory building on Van Buren street and 26th avenue, Bellwood. The structure will contain approximately 7,000 square feet of floor area.

• **Automatic Spring Coiling Company**, 4045 W. Thorndale avenue, is expanding its plant by the addition of 8,000 square feet of floor area.

• **Douglas Food Company**, 4840 S. Kedzie avenue, is constructing an addition to its plant. The company produces confections, nuts and spices. A. Epstein and Sons, Inc., engineer.

## A Look At the Future

(Continued from page 14)

action. Markdowns were hardly ever taken — markups were excessive and turnover is very slow. Latin American stores will average less than half the turnover of American retailers. All these factors have made our competition fairly easy. Customers in Brazil, originally attracted by price, now are equally attracted by the added convenience in shopping.

There has been a great improvement in the education, training and character of retailers within the last 30 years. In the early '20's there were very few college graduates in retailing, and the type of retail executive was distinctly inferior to those engaged in manufacturing or transportation. That has been changed and today retail executives match in ability those in other types of industry.

Thirty years ago, chain stores, particularly the older chains, had an unenviable reputation in their communities. They paid very low wages and showed an utter disregard of their obligations to the communities in which their stores were located.

Again there has been a great change, and I think it fair to say that most of the chains now fulfill their obligations.

The greatest single factor in the economic life of the United States today has been the rapid growth of population since 1940. In the decade of the '30's, our population increased at the rate of 890,000 per year; in the '40's, at the rate of 1,900,000 per year; in the '50's, thus far at the rate of over 2,500,000 per year. Unless the birth rate falls materially, our population will reach 175,000,000 — probably a little more — by 1960. Unless war comes or economic conditions change materially, it will reach 200,000,000 or more by 1970.

The only circumstance that can slow up this increase in population will be a material drop in the national birth rate. This will probably not come unless there is a war or a serious depression. Our modern social security laws — protecting as they do the most ignorant and the poorest segment of our population — likewise represent a check to a seri-

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T. M. HAYES, Passenger Traffic Manager  
St. Louis 1, Missouri



ous fall in the birth rate. Whether this is a good or bad policy for the country will be demonstrated over the years.

Twenty years ago, businessmen paid little or no attention to population figures — birth and death rates. Today, even the dumbest businessmen can see the impact on business and on our economic life of an increase of between 2,500,000 and 3,000,000 souls per year. It means more customers for everybody — raw material producers, manufacturers, merchants, the transportation and service industries, the insurance companies — everybody. It means a general increase in real estate values through the country, a general increase in all values — all the phenomena attendant on an expanding economy.

## Scientific Progress

Side by side with this growth is the enormous progress made in this country in every branch of science, the new discoveries that are being made not only in science proper but in machines, tools and equipment, the betterment of our manufacturing techniques. We have increased our agricultural output by over 25 per cent within the space of 12 to 13 years with 25 per cent fewer workers. We have a greater number of skilled scientists than any other nation in the world. Great as has been our advance in the last fifteen years, the laboratories of this country promise us even greater developments and advance over the next twenty years. There is no reason why we cannot increase our productivity and take care of an increasing population on an even higher standard of living.

Irrespective of temporary set-backs, our young businessmen should be able to look forward to a bright future. While this should apply to the nation as a whole, it may not apply to every section of the United States. But it should apply to Chicago and its metropolitan area. The same factors that caused the founding of Chicago, its astounding development and growth, are still at work and nothing can take away the material advantages of its location. We are still located in one of the richest areas of the world.

An expanding population means an expanding and a prosperous econ-

(Continued on page 39)

# Transportation and Traffic



STATEMENT in opposition to the proposed establishment of fees and charges to accompany applications submitted under the Interstate Commerce Act has been filed with the Interstate Commerce Commission by the National Industrial Traffic League. "The regulatory functions performed by the Interstate Commerce Commission," the league said, "are presumed to be in the public interest and for the benefit of the public. The quasi-judicial functions of the commission are similar to the judicial functions of the courts in that they provide a public forum for the settlement of disputes between the public generally and the carriers. Traditionally, and in the spirit of Public Law 7, the cost of such regulation and providing such a forum should be borne by the taxpayers." The statement continues, "the league opposes the imposition of fees and charges by this commission intended to reimburse the government for the cost of performing regulatory functions. The league is opposed, therefore, to the proposed schedule of fees and charges as being designed to make the commission self-sustaining in respect of the functions for which such fees and charges are proposed." In conclusion the statement says that the league "would interpose no objection to the collection of reasonable charges for special services not essentially a part of regulatory functions or to nominal filing fees for applications, comparable with fees charged in the Federal District Courts." The commission later announced that it had agreed to a resolution adopted by the Senate Committee on Interstate and Foreign Commerce and would hold up any action to establish licensing fees until July 1, 1955.

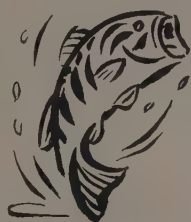
• **Tariff Protests Must Be Filed 12 Days Before Effective Date:** The Interstate Commerce Commission has amended Rule 42 (b) of its General Rules of Practice so as to require that protests and petitions for suspension of any tariff or schedule must be filed not later than 12 days prior to the effective date of such tariff or schedule instead of 10 days. The amended Rule 42 (b) becomes effective May 9, 1954, and reads as follows: "Rule 42 (b) When filed, — A protest against, and a prayer for suspension of, any tariff or schedule filed under the act ordinarily will not be considered unless made in writing, and filed with the commission at least 12 days before the effective date of the tariff or schedule. In an emergency satisfactorily shown by protestant, and within the time limits herein provided, a telegraphic protest may be sent to the commission and to the publishing carrier, freight forwarder, or agent, stating the ground relied upon, but such telegraphic protest must immediately be confirmed by protest filed and served in accordance with this rule."

• **I.C.C. Allows 10 Per Cent Central Territory Motor Rate Hike:** The Interstate Commerce Commission voted not to suspend a 10 per cent increase in Central territory motor carrier class rates, published in tariffs of Central States Motor Freight Bureau to become effective April 7, 1954. A similar increase in commodity rates, which is slated to go into effect May 7, 1954, has not as yet been acted on by the commission.

• **Tax on Passenger Transportation Reduced to 10 Per Cent:** President Eisenhower has signed a bill reducing excise taxes approximately \$999 million annually, effective April

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1. Among other things, the measure reduced the present 15 per cent tax on the transportation of passengers to 10 per cent. This tax on travel was first enacted in October, 1941, at an effective rate of five per cent. In November, 1942, Congress raised the rate to 10 per cent, and on April 1, 1944, to 15 per cent.

• **I.C.C. Allows Reduction in Rail**

**Iron and Steel Rates:** The Interstate Commerce Commission voted not to suspend the reduced railroad rates on iron and steel articles in Official territory, published to become effective March 26. The reductions average about 15 per cent. The commission did, however, assign the rates for investigation under Docket No. 31487. Division 2 of the commission has recommended to the full commission that the Docket No. MC-C-1510 investigation into motor common carrier rates on iron and steel articles in a portion of Official territory be enlarged to include all of Official territory and the rates of contract as well as common carriers.

• **National Motor Classification**

**Bulwinkle Pact Rejected by I.C.C.:** The Interstate Commerce Commission, by a report and order in Section 5a Application No. 16, National Motor Freight Trac Agreement, found that approval of the agreement involving the approximately 5,100 motor common carriers parties

to the National Motor Freight Classification, was prohibited by Paragraph (6) of Section 5a of the Interstate Commerce Act. This section provides for the free and unrestrained right of parties to an agreement to take independent action either before or after a determination arrived at under the procedure provided for in such agreement. The commission pointed out that procedure provided for in such agreement. The commission pointed out that shipping interests contended that under the terms of Part III, Paragraph 2 of the agreement, the implication at least existed that each carrier must first submit the proposed change to the collective consideration and determination by the board and committee before exercising its right of independent action. "We are inclined to agree with protestants," the commission said. "It appears that the right of independent action may, under this agreement, be limited to the period following the committee's determination. In Central States Motor Freight Bureau, Inc.—Agreement, . . . the conclusion was reached that a carrier party to an agreement is to be accorded the right to take independent action at any time, whether before, during or after consideration pursuant to procedures established by the particular agreement to which it is a party." While recognizing that in classification matters uniformity is

essential, the commission declared "the statute permits of no deviation from its terms, and we are not authorized to approve any agreement which undertakes to obtain uniformity by restricting in any way the carrier's right of independent action." Section 5a of the Interstate Commerce Act, the so-called Reed Bulwinkle Act, exempts from the provisions of the anti-trust laws agreements between carrier regarding rates and related matters when such agreements have been approved by the Interstate Commerce Commission. Rejection of the subject agreement was without prejudice to the filing of a new agreement in conformity with the views expressed by the commission.

• **Advisory Boards Forecast 7.6**

**Per Cent Dip in Carloadings:** The 13 Regional Shippers Advisory Boards forecast a 7.6 per cent decrease in the nation's carloadings in the second quarter of 1954, as compared with actual carloadings during the same period last year. Commodities on which the greatest decreases are anticipated are automobiles and trucks, 26.7 per cent; ore concentrates, 17.7 per cent; iron and steel, 16.6 per cent; and citrus fruits 11.3 per cent. Reductions in carloadings under last year are predicted in all districts except the Pacific Northwest. The Mid-West Shippers Advisory Board forecasts a 6.4 per cent decline in second quarter carloadings in this area. Actual carloadings for the 13 weeks ending March 27, 1954 were 11.7 per cent and 16.1 per cent, respectively, under the same weeks in 1953 and 1952, according to the Association of American Railroads.

• **I.C.C. Postpones Hearing on**

**Motor Vehicle Leasing Rules:** The Interstate Commerce Commission has postponed the hearing in Ex Parte MC-43, Lease and Interchange of Vehicles by Motor Carriers, from April 14, 1954 to June 14, 1954. The hearing will be held in the commission's offices in Washington, D. C., before Examiner Henry C. Lawton. The proceeding was recently reopened by the commission to reconsider the provisions of its order banning trip-leasing of vehicles by authorized motor carriers and the payment of compensation for the use of non-owned vehicles based on a

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percentage of the revenue earned by such vehicles. A bill, H.R. 3203, which would nullify the commission's order, has been passed by the House and is slated to be considered by the Senate Interstate and Foreign Commerce Committee on May 10, 1954.

**Extend Time for Filing Protests** on Proposed Section 22 Rules: On the request of the railroads, the Interstate Commerce Commission has extended the date for filing protests against the adoption of proposed rules to govern the filing of quotations for transportation of persons or property for the United States, state or municipal governments at free or reduced rates, as permitted under Section 22 on the Interstate Commerce Act, to May 23, 1953. The proposed rules, with certain exceptions, would require that all such quotations be filed with the Commission 30 days prior to the effective date thereof.

## Look At Future

(Continued from page 36)

my — up to a point. But if population outruns resources and productivity, the result is a declining standard of living and, in the long run, a declining economy.

The basic trouble with a great part of Asia and a great part of Europe is overpopulation — China and India with their unrestricted birth rates are classic examples of over-population. Most of Western Europe is in the same category. The British Isles, where 50,000,000 people are living on 89,000 square miles or half the area of California and one-third the area of Texas; Belgium, Holland, Western Germany, Denmark, Spain and Italy are all countries where the natural resources are not sufficient to feed comfortably the present population, let alone any continuing increase. There is only one country in Western Europe that can feed itself and that is France. But here again I believe the remedy will come partly from increased productivity, partly from a slower rate of increase of population. The birth rates of Western Europe are dropping now and sooner or later the restricted rates of Asia and Africa will fall.

The biggest "but" is the question of war. We are living under the shadow of a war with Soviet Russia. If such a war does come, it will probably shatter our present economic system and cause enormous readjustments. You all may have to start life anew.

## Doesn't See War

One cannot draw conclusions without facts and we have — in spite of what our government may say — no reliable facts about what is inside the Iron Curtain. So one man's guess is as good as another's. I have been one of those who have believed that we will not have war with Russia, certainly not within the next ten years, perhaps never. Russia, as well as ourselves, has a great land mass, needs no more territory. Ideologically, she is still on the offensive — how long a period of time this will last remains to be seen. The present regime of Russia contains, like all despotisms, the seeds of its own destruction. Sooner or later, the present regime of the Kremlin will fall — the only question is the timing — will it last another ten years or fifty years. From what little we can learn, we know the whole Soviet economy right now shows signs of serious weakness. While I know no more than anyone else, I do not believe we will have war.

Nevertheless, our whole capitalistic system is now engaged in a life

and death struggle with Marxism. I know the capitalistic system has its faults and weaknesses, but I believe it is superior to any other system yet devised. You cannot have liberty for the individual and Marxism — the all powerful state.

Capitalism in Europe has not been a true capitalism in that it became a capitalism of cartels, monopolies and inefficiency. Our American capitalism has been the only fair competitive capitalism in the world.

Now if capitalism is to survive, it is up to our future business leaders, to improve and perfect our present system. The greatest protection to the system is to create more capitalists. Corporations are working in that direction with profit sharing plans and the various means that are being taken to protect the worker and his family against death, illness and unemployment. Such arrangements will make it easier for the worker to accumulate some capital.

I believe the greatest help to our future system will be for corporation executives, to regard themselves as trustees not only for their stockholders, but for their employees — to feel that it is to their interest to help the employee to a higher standard of living, and to have the employee regard his employer as a friend, not as an enemy. With such a change of attitude for both employer and worker, it will do much to relieve tensions, and to make a happier and better industrial world.

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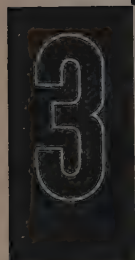
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# New Products

## Tiny Radiation Detector

Even the atomic age is no exception to the American quest for convenience. Now North American Philips Company is marketing a 25-ounce radiation detector that fits easily into a man's pocket. The maker recommends it for measuring radiation exposure of laboratory workers, for checking intensity levels during research investigations, for X-ray monitoring, geological surveys, locating lost radio-active materials, and for guiding persons in contaminated areas. The unit employs a halogen-quenched counter tube that operates at 350 volts, and a special diode-pentode oscillator tube. A special circuit draws current from the anode batteries only when the Geiger tube registers counts. Address of the manufacturer is 750 South Fulton Ave., Mount Vernon, N. Y.

## Optical Comparator

An optical bench comparator for fast comparison of precision parts against master charts has been announced by Bausch and Lomb Optical Company, 635 St. Paul St., Rochester, N. Y. The comparator, equipped with understage illumination, has five projection lenses that provide magnification from 10 to 50 times. The part under inspection is shown in silhouette on a 10-inch wide-angle screen that permits viewing by several people at once. The company says that the comparator has been designed so that it can be operated by relatively unskilled personnel. The DoAll Company of Des Plaines, Ill., is distributing the device, which is about the size of a table-model television set and weighs 110 pounds.

## Low Slung Fork Truck

Crescent Truck Division of Barrett-Cravens Company, 4609 S. Western Blvd., Chicago 9, announces an electric fork truck designed for low headroom areas. Called the Lo-Head, it is adapted for loading and unloading trailers and box cars, for opera-

tion in tunnels and in areas with low ceilings or overhead obstructions. The truck has a 68-inch mast, and the space of 36 inches, from the seat to the top of the mast was found to exceed the "sitting height" of 98 per cent of the men checked. The model has a 48-inch lift and is available in capacities of 2,000, 3,000 and 4,000 pounds.

## Infrared Quartz Lamp

A completely new type of infrared lamp, featuring a tube made of fused translucent quartz, is announced by General Electric Company, Nela Park, Cleveland 12. The company foresees "scores of heating, drying, baking, cooking and other uses for the slender lamp which can withstand high temperatures and the shock of violent temperature changes. Two sizes are being introduced, 400 and 1,000 watts. They have lighted lengths of 5 and 10 inches, respectively, and metal clips on both ends that add 1 3/4 inches to overall length. List prices are \$7 for the 500-watt size and \$8.50 for the 1,000-watt type. One type of unit employing the quartz tubes is expected to be a ceiling heater that would also provide some illumination. Samples are now available to manufacturers wishing to develop equipment employing the lamp.

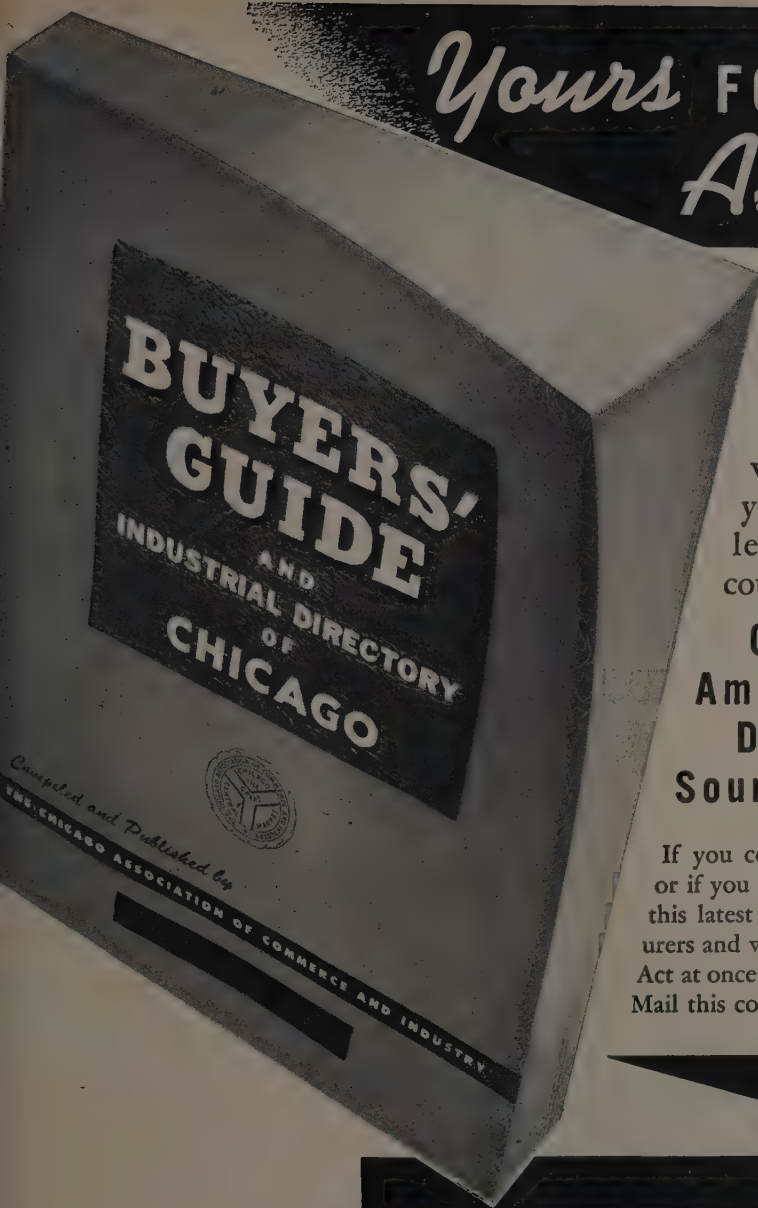
## Pipe-fitting Insulation

Owens-Corning Fiberglas Corporation, Toledo 1, has developed a molded pipe-fitting insulation for rapid installation on hot and cold line fittings. Made of Fiberglas and manufactured in preformed halves the insulation is molded to fit screwed and butt-welded fittings. It may be used on moderate low temperature work and on heated piping to 450 degrees. The two halves may be stapled, wired or taped together.

## Gear Selector

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— satisfactory, oversize, and under-size — is announced by Michigan Tool Company, 7171 E. McNichols Road, Detroit 12. The manufacturer states that the selector can be coupled to inspect spur or helical gears faster than they can be produced by shaving and hobbing machines and gear shapers. The machine operator can feed gears into the selector, or gears can be inspected in a fully automatic set-up that does not require operator attention.

### Office Wall

A screwdriver is said to be the only tool needed to install a new free-standing office wall called the "Partition-ette" made by Arnot-Jamestown division of Aetna Steel Products Corporation in Jamestown, N. Y. The system is made of interlocking panels that can be extended in any direction. They do not interfere with existing heating, ventilating or lighting. The panels come in ten widths and three heights, in oak and walnut, or steel topped with clear or fluted glass.

### Diesel Muffler

Recently developed by Oxy-Catalyst, Inc., Wayne, Pa., is a catalytic muffler that reduces the noxious and irritating components of four-cycle diesel engine exhausts. The device, called the Dieseler, attaches directly to the engine manifold and burns by

catalytic action the carbon monoxide and hydrocarbon fumes in exhaust gases. Use of the Dieseler, the maker says, has permitted the Coplay Cement Manufacturing Company of Coplay, Pa., to operate a standard diesel-powered tractor-shovel underground in its limestone mine without danger from exhaust fumes.

### Bottomless Garbage Can

A "bottomless" garbage can is what Bardmatic Corporation of Muskegon, Mich., calls its new chemical garbage disposal unit. A cone-shaped steel can, 23 inches high and 24 inches in diameter at its base, is partially buried and used as a receptacle for all types of garbage, including bones. A "catalytic starter" is emptied on the first deposit, and the system proceeds to liquefy the garbage, which then seeps off into the ground. A retail price of \$29.95 at hardware stores is planned.

### Compatible Fluid

A silicone fluid that is remarkably compatible with organic materials has been developed by Dow Corning Corporation of Midland, Mich., as a nonseparating functional ingredient for cosmetics and ointments. It is water white, odorless and can be easily diluted with lanolin, beeswax, mineral oil and 95 per cent ethanol. The company calls it "555 Fluid" and says it also shows promise as a

release agent for specialized applications, as an additive for paints and petroleum products, and as a plasticizer for certain rubbers and plastics.

### Porcelain Panel Caulker

Porcelain paneling is now practical for tall buildings, thanks to a new Koroseal caulking strip it has developed, say the B. F. Goodrich Company of Akron, O. According to the company, the new strip does not deteriorate or lose its resilience due to weathering. Unlike conventional caulking, it does not require periodic maintenance, says Goodrich. The Koroseal strip is a one-piece extrusion composed of a flat tube set at right angles on the center of a narrow, flexible strip. Flanges of the strip are placed behind the back edges of panels, and the tube-like portion extends between the panels. The product was developed for Davidson Enamel Products, Inc., of Lima, O.

### Loading Dock Bumper

A low-cost solution to the problem of damaged wood facing boards on truck loading platforms is offered by the Everguard Company, P.O. Box 143, Newport Beach, Cal. It is a neoprene synthetic rubber bumper that is mounted in continuous strips along the dock. The bumper comes packed in four 14-foot strips to a carton and is priced at 90 cents a foot, f.o.b. Newport Beach. The guard resembles a half-round molding on a wide, flat base. It can be applied with roofing nails.

### Automatic Slide Projector

Argus Cameras, Inc., of Ann Arbor, Mich., has added an automatic 30-watt slide projector to its line of 35mm camera products. The projector is housed in a portable case that accommodates four magazines containing 144 slides. The price is \$66.50, including excise tax.

### Aluminum-Domed Tanks

Aluminum dome roofs are now standard equipment on gravity storage tanks manufactured by Chicago Wooden Tank Company, 2637 South Throop St., Chicago 8. The company says that the high dome and

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aluminum combine to give better heat-reflection and keep the tank cooler in summer. The roof is removable and has a convenient sliding door. The tank itself is made of wood and is bound by galvanized steel hoops.

### Phase Filter

The Magna-Flomaster, a three-phase filtering system made by U. S. Hoffman Machinery Corporation of Racine, N. Y., is designed to clarify mineral cutting oils or water soluble emulsions used with finishing grinders and other machine tools where ferrous metals are being worked. The contaminated oil first enters a tank where the heavier solids are allowed to settle to the bottom. Next, lighter particles are attracted to a magnetic plate. The oil is finally passed through a cartridge-type filter that removes the remaining fine particles. The device is available in three models with flow rates ranging from 20 to 40 gallons a minute. They are designed for use where metallic and grit particles are relatively small.

### New Ekco Cookery

Ekco Products Company's new line of vanadium stainless steel cookware features triple-layer construction and concealed radiant heat core that distributes heat all the way up the sides of the utensils as well as across the bottoms. The line, known as "Int-Ware," was designed by Raymond Loewy. One innovation is self-closing lids that when inverted fit inside the utensils. Ekco's address is 49 N. Cicero Ave., Chicago.

### Long-Life Pen

A new jewel-tipped retractable ballpoint pen, said to have 500 percent more writing capacity than other ballpoints, has been placed on the market by the W. A. Shaeffer Pen Company, Fort Madison, Ia. Called the "Shaeffer Clicker," the new pen is said to write a full year for the average person without refilling. It uses quick-drying, non-smear ink available in red, green, purple and royal blue.

### Double Blade Sharpener

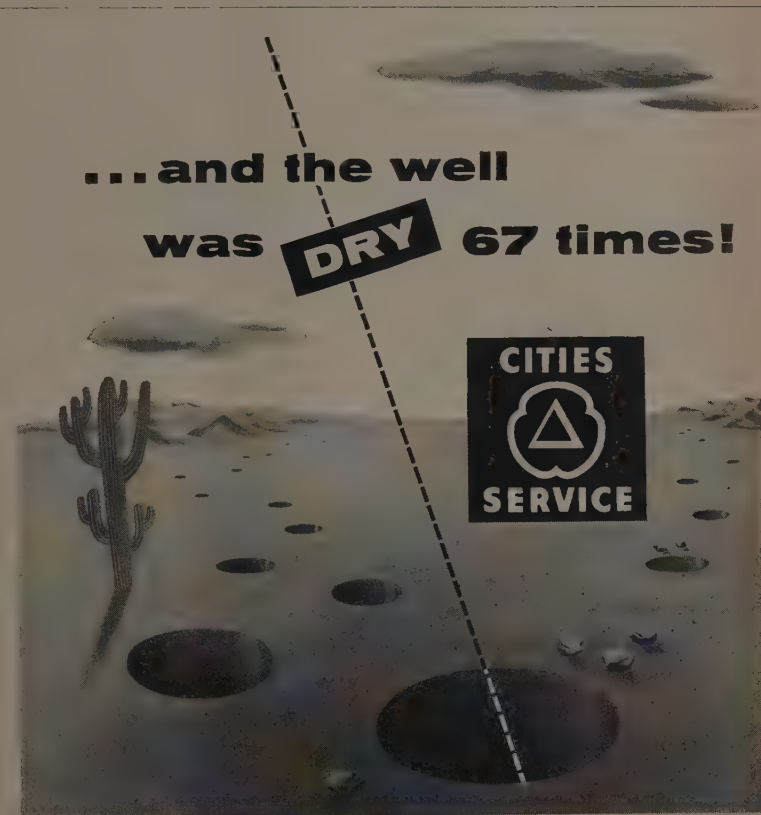
A razor blade sharpener that quickly hones double-edged blades

right in the razor, and also wipes, dries, oils and sanitizes them in one operation is the description of a new product introduced by the Sav-A-Blade Company, 3158 W. Irving Park Road, Chicago 18. The device is said to provide up to 30 shaves per blade while saving shavers up to \$15 per year on blades alone.

### Paint Remover

"Liquisan" is the name of a new

product that is said to remove paint, varnish and shellac from wood and metal by means of a decomposing process. Packaged in pint, quart and gallon cans for home use, the product is made by the J. F. Kerns Company, 350 W. Ontario St., Chicago, which says "Liquisan" completely disintegrates all varnish, paint and shellac in five minutes leaving only the natural grain wood. It is described as harmless to any kind of wood.



Out of 90 wildcat wells drilled by Cities Service last year, over 67 were dry. And, you may say, "Bad business." But actually these dry wells represent the "good business" sense of the entire industry.

Even with all the latest scientific methods at their disposal, oil men cannot always be certain of a black-gold find beneath strange lands. What is important is that Cities Service, as well as the rest of the industry, is willing to risk huge sums on any reasonable evidence that they may find oil.

One company may decide not to drill an area, while another will say, "Let's take the risk." This is gilt-edge assurance to the nation that every possible area will be explored. It's a marvelous example of how

our free enterprise, competitive system constantly influences all American business in a direction that will always benefit the consumer.

Cities Service will continue to make new oil finds to help fill the oil larders of the nation . . . known underground oil supplies are over four times what they were thirty years ago. Cities Service will continue to drill dry wells too . . . the odds are 8 to 1 against bringing in a producing discovery well. And these hundreds of dry wells, with the millions of dollars spent on them, will in themselves serve as a monument to the constant efforts of the American petroleum industry to keep our country strong and to keep our standard of living the highest the world has ever known.

## They Hold Key To Investment Billions

(Continued from page 20)

to meet the suggestions of the committee.

Other industries whose financial reports have been studied critically, with improvements recommended, include chemicals, paper, insurance, utility and oil. Specific recommendations have also been made for the improvement of corporation reports in general.

The rise of the analysts to great influence has easily been one of the important economic developments of the last decade, even though it has largely escaped public notice. When the National Federation was organized in 1947 it consisted of four member societies — from Chicago, Boston, New York and Philadelphia. The first annual convention was held the next year in Schwartz' Restaurant in New York. It started off with a luncheon, followed by forum meetings during the afternoon and a dinner that evening. The 1949 convention was also held in Schwartz', and it was not until 1950 that the con-

vention was extended to a full day and held in a hotel.

Today there are 15 member societies in the National Federation, with the following additional cities represented: Cleveland, Detroit, Los Angeles, Montreal, Providence, Richmond, St. Louis, San Francisco, Kansas City, Minneapolis-St. Paul, and Dallas. Total membership is above 3,800.

Oldest of the member groups is the Investment Analysts Society of Chicago, organized in 1925 by a small group of "statisticians" who found that by getting together for lunch occasionally they could learn much from one another. By design the Chicago society has grown slowly and selectively, as is borne out by the total membership of less than 300 and the distinguished individual or company names on the roster. All of Chicago's big banks have representatives in the society, along with eight insurance companies, five investment companies, eight invest-

ment counselling firms, and several large estates. The treasurers of two big universities are members, as are several professors of finance, partners in investment banking and brokerage firms, corporation treasurers, and others of similar rank. The current president is Philip C. Biggert, vice president of Scudder, Stevens & Clark, Inc., investment counsellor. His predecessor was J. Parker Hall, treasurer of the University of Chicago.

### N. Y. Group Biggest

Largest of the societies, and in many respects the dominant factor in the National Federation, is the New York Society of Security Analysts, Inc., organized in 1937 with an original membership of 20 and now grown to about 1,800. During the winter months the New York group has luncheon meetings, with prominent speakers, four and sometimes five times a week, by contrast with Chicago's 1952-53 season schedule of 15 luncheon meetings. The New Yorkers publish the *Analysts Journal*, a learned magazine recommended by the Harvard Business School Bulletin as one of ten publications for contemporary reading by businessmen.

The disastrous stock market crash of 1929 helped to start the analysts on the way up from obscurity. Up to that time everybody was an "expert" on stocks and the stock market. After all, didn't everybody make money simply by being on the buying side of the market? Investment decisions were often guesswork founded on rumors.

The crash changed all that. Investors and speculators were humbled. To themselves they confessed their own inadequacy. So they turned to the "statisticians."

Before long, the New Deal was starting its economic experiments. The abandonment of the gold standard — a clear promise of inflation — drove investors into common stocks as a hedge. For many it was a new experience, and they needed help to guide them among these unfamiliar securities.

Government manipulation of the money market to keep down the interest cost on the soaring public debt caused yields on high grade bonds to drop from around five per cent to three or less. Again stocks

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and the more speculative bonds offered higher yields, but it took competent students — the analysts — to make informed, intelligent selections. Soaring income taxes had a similar effect. High income bracket individuals sought higher and higher investment returns to try to offset the bigger and bigger bite of the tax collector. In the meantime a new type of big investor came to the front — the institutional investor pooling the funds of thousands of large and salary earners. The institutional investors were chiefly the mutual funds, and pension and welfare funds set up by unions and corporations. Life insurance companies also became bigger factors in the investment markets than ever before. These institutional investors rely completely on their strongly backed research and analysis departments for guidance in making investments. Thus have the analysts become a factor to be reckoned with by the corporate executive. As Mr. Woodworth said: "They are playing the vital role of linking industry and the investor. Professional business management meets professional investment management."

## Toll Road System

(Continued from page 17)

and tremendously increased construction costs, these rates compare quite favorably with those charged on Chicago's original toll road. To travel along a ten-mile stretch of links connecting Chicago and the westside, a horseman had to pay 1/2 cents back in 1848. A two-horse wagon was charged 25 cents and a four-horse wagon, 27 1/2 cents. The cost of building this old toll road was \$16,000 — which would pay for only a few yards of modern super-highway!

Many truck operators — who might logically be expected to oppose toll roads — have strongly endorsed them. The reason: Superior engineering on new highways eliminates stops, slowdowns, intersections, rough pavement and close traffic which boost motoring costs and accident rates. These savings seem more than make up for the six-cents-a-mile truck levy on toll roads. Not long ago truckers conducted simultaneous tests on two 25-mile

stretches of highway—one, the Pennsylvania Turnpike, a toll road; the other on Lincoln Highway (U.S. 30), a free road. One of the test trucks on the free road used 50 per cent more fuel and took twice as long to reach its destination.

Another experiment showed that a vehicle traveling a given stretch of free road made 39 stops while another, traveling the same distance on a parallel toll road, stopped twice — both times at toll stations.

When the New York-Chicago expressway is finished sometime in 1956, cars and trucks will be able to drive all the way from Hartford, Conn., to eastern Indiana without encountering more than one stoplight!

However, the very engineering features that enable motorists to sweep past cities, avoid intersections, speed smoothly around graduated curves and travel on one-way ribbons of concrete also make these new roads fantastically expensive. The New Jersey Turnpike, built on 3,558 separate pieces of land, cost as much as \$8 million per mile to build in some places! This included land

cost. Other toll road construction costs per mile: New York Throughway: \$935,000; Ohio Turnpike, \$1.3 million; Oklahoma Toll Road, \$432,000.

The frightful cost of building modern highways is a headache for state officials all over the country. Experts have declared that \$6 billion should be spent every year to improve and maintain the nation's \$75-billion network of free roads. Actual expenditures are no more than one-sixth of the recommended amount.

A complicating factor is the fact that some state constitutions limit the amount of indebtedness that may be legally incurred for road building. This ceiling has already been reached in many states, and these limits are not always realistic, since they were set back in the days when an elegant highway was an asphalt two-laner.

Thus the avenue of state borrowing for highway construction is closed in many areas. Vehicle and gasoline taxes could be raised, but this presents a political problem of major proportions. Besides, why should residents of one state have to

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pay for highways used most heavily by residents of other states?

"Laws and practices governing the expenditure of highway funds make it impossible to concentrate highway construction costs where the needs are greatest," observe Owen and Dearing. "Because [of this] the most serious accumulation of deficiencies is found on the nation's most congested highways. . . ."

Thomas H. MacDonald, U. S. Commissioner of Public Roads back in 1946, agreed that the areas of great need were "where main highways approach and enter cities. . . ."

A final factor contributing to America's highway crisis is the ever-increasing number of cars and trucks pounding the roads. There are about 52 million vehicles in the country — 10 million more than had been forecast by highway experts a few years ago.

Into this tangled situation the toll road fits neatly, according to its many proponents. For toll roads bypass the roadblocks of politics, debt limit and inadequate car-carrying capacity. The toll road commission or authority set up by the state legislature operates independently — though in cooperation with — other state agencies. It floats its own bonds, conducts its own surveys, does its own engineering, supervises construction and administers its off-spring, the toll expressway.

### Where Tolls Go

Toll fees are used to operate and maintain the highway, and to pay off bonded indebtedness. When construction costs are thus written off, it is entirely possible that the toll road can be integrated into the public road network. Or, tolls could be maintained as a continuing source of state revenue.

Most toll road building has taken place in the East and Middle West, where population concentrations are the heaviest. The reason is simple: Only a heavy and constant volume of traffic can pay for the immense cost of building a toll road. Notable exceptions are the turnpikes between Denver and Boulder, Colo., over the Florida Keys, and from Tulsa to Oklahoma City.

Toll road enthusiasts point out that pay-as-you-use financing is practically painless, compared with a general increase in gasoline or vehicle

taxes. According to some sources, motorists actually save more in time and reduced operating costs on a toll road than they spend for tolls. Many truck operators take this view.

Safety is another advantage claimed as a characteristic of the toll road.

"Fatality rates per hundred million vehicle miles are lower on turnpikes than on parallel free roads," advises the Public Administration Clearing House, "though accidents on these superspeed throughways are usually more serious."

Surveys on the Merritt Parkway, a toll road in Connecticut, showed there is only one accident for every four and one-half that occur on a parallel stretch of heavily traveled free road. Other studies show a safety ratio of eight to one in favor of the superhighways.

The boom in toll roads places Chicago in a strategic terminal position — much as the city is for the nation's railroads.

"Wisconsin, Indiana, Missouri and Iowa have drawn plans for express ways," reports Admiral Old of the Illinois commission. "We must integrate our plans with those of our neighboring states so as to forge another link in the . . . chain of superhighways. . . . Fortunately . . . we have started in ample time so that our turnpike construction can be synchronized with similar programs in half a dozen nearby states. . . ."

The Chicago-New York expressway is inching westward across Ohio at the rate of one-quarter mile every day. Indiana has drawn plans to meet this road at its eastern boundary and complete the cross-country expressway to the edge of Chicago by 1956. This means that in two years a steady volume of cars and trucks from the East will be pouring into Chicago, further complicating an already-complicated traffic situation.

How will this influx be handled?

Right now traffic engineers are completing a detailed study of a possible effects of the toll road influx. This report will be made public this month together with recommendations for meeting the situation.

The whole state is affected by toll road construction in neighboring states, according to Judge Eva Howell, chairman of the Illinois Toll Highway Commission. Says he

Michigan is planning a turnpike from Detroit to Benton Harbor and thence to Chicago. Wisconsin is planning a route from near Minneapolis and St. Paul to a point near Chicago. Iowa has an east-west project aimed at Chicago and reaching Illinois at Moline. Missouri has no turnpikes in the planning stage, although reaching Illinois at St. Louis." As a result, the state is astir with plans and rumored plans. "No city will be preferred or discriminated against," declares Old. "The [toll] roads will be located through two kinds of surveys: (1) to determine the best location and kind of design; (2) to estimate as closely as possible the volume of traffic on any tentative route."

"These two reports are laid side by side as a foundation upon which the total amount of bonded obligation is based," according to Old. "Every prospective route throughout the state is being surveyed. . . ."

Thus the toll road program in Illinois has become an important and distinct element in the Midwest and national highway picture.

"Toll roads for Illinois are no longer a speculation," declared State Governor William G. Stratton early this year. "They are an imminent development long overdue."

## Trends In Finance and Business

(Continued from page 10)

in 1952 and 23.4 per cent in 1953. The dollar amount withheld risen from \$10.3 billion in 1945 to \$17.9 billion in 1952 and \$21.1 billion in 1953.

Another increasing form of payroll deduction is group life insurance. About 25 million, or half of the nation's payrollers, have such coverage with an aggregate face value of \$1 billion. Eight million persons are contributing \$2 billion in U. S. savings funds annually via payroll deductions.

**No Recession in Homes** — No signs of recession are evident in the recent quarter report on Chicago area building issued by the Bell Building and Loan Association. A total of 8,669 building permits, covering 7,285 homes and 1,384 apartment units, were issued with a value of \$104.7 million. This compares

with 7,802 permits for \$90.1 million in the first three months of 1953 and 7,257 permits with a value of \$79.2 million in the 1952 first quarter.

For what is believed to be the first time, Chicago home permits, valued at \$17.3 million for the quarter, fell below those of the unincorporated areas, which totaled \$18.6 million. Suburban town home permits were \$57.2 million. The area covered by the Bell survey extends from Waukegan on the north to Gary on the south and is bounded by Elgin, Aurora, and Joliet on the west. Chicago's dollar share of new homes dropped from 24 per cent of the area

total in 1952 to 19 per cent in the recent quarter.

The city, however, experienced a sharp upswing in apartment building in the recent quarter, the figure rising to \$10.3 million from \$2.9 million in the same period last year.

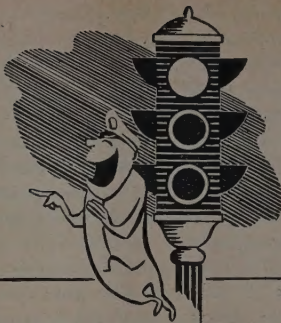
• **Frozen Food Outlook** — The frozen food industry expects 1954 to be another record-breaking year. Last year dollar sales topped the billion-dollar mark for the first time. Some 1,400 commercial packers packed nearly 3.5 billion pounds of frozen foods with a sales value of \$1.2 billion. This was a \$500 million increase from 1952.

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# Stop me...If...



Northern Co-ed: "Men are all alike."  
Southern Belle Roommate: "Men are all Ah like, too."

One day, an Eastern University professor visited the expanding campus of the University of California at Los Angeles. He watched construction work on half a dozen new buildings. He inspected new laboratories and attended summer classes in modern study rooms. He walked across miles of eucalyptus-lined lawns and athletic fields with one of the deans. He was impressed.

"My," he said, "just how many students do you have here?"

"Let me see," the dean answered thoughtfully. "I'd say about one in a hundred."

Watching a drunk try without success to unlock the door to his house, a policeman asked if he could handle the key for him.

"No, thanks," the man replied, "I can hold the key—you hold the house."

"Glad to see you getting to school on time these mornings," said the teacher.

"Yes, sir, I've got a parrot now."

"A parrot, young man. I told you to get an alarm clock."

"I never seem to hear alarm clocks," explained the student. "But, now I've got this parrot. And what the parrot says when the alarm wakes him up is enough to wake up anybody."

Bored girl: "You remind me of the ocean."

Boy-with-a-line: "On account of my being so wild, magnificent and romantic?"

Gal: "No, because you make me sick."

It was a very hot day in a small town. The bank inspector, walking into the bank, was quite surprised to find no one on duty. Peering into the cashier's office he saw two officials and the two clerks playing cards. Deciding to teach them a lesson, the inspector tripped the burglar alarm and ducked into a vacant office. Hardly had the clang of the alarm died away when the doors of the tavern next door popped open.

"Coming right up, gents," called the bartender, entering the bank balancing a tray with four foaming mugs of beer.

An Australian was trying hard to impress a Texan with the wonders of the down-under country. He wasn't succeeding very well, until the Texan spied a kangaroo. "Ah'll grant you one thing, for sure," drawled the man from the Lone Star State. "Your grasshoppers are really bigger than ours."

A man appeared at a newspaper office to place an ad offering \$500 for the return of his wife's pet cat.

"That's an awful price for a cat," the clerk commented.

"Not for this one," the man snapped. "I drowned it."

An adolescent boy, going on a school picnic, asked his father for a dollar for spending money. The father sighed as he handed over the money.

"Make it go as far as you can," he said.

"I'll make it go so far you'll never see any of it again," was the reply.

"Thankful! What have I to be thankful for? I can't pay my bills."

"Then, man alive, be thankful you aren't one of your creditors."

Father was furious; his shaving-brush was missing.

"Doesn't anybody know where my shaving brush is?" he thundered.

"N-n-no," answered a small voice from the nursery, "but Willie's wooden horse has grown a new tail!"

"If your mother dislikes Bill so much why did she consent to your marrying him?"

"She says she's looking forward to being his mother-in-law for a while."

"Someone told me you entertained your neighbors informally last night."

"Yes, I had a quarrel with my husband on the front porch."

She—"If I refuse you, will you kill yourself?"

He—"That's been my custom in the past."

Uncle—"You boys starting out today expect too much. Do you know what I was getting when I married your aunt?"

Nephew—"No, and I bet you didn't either."

A pink elephant, a green rat and a yellow snake entered a cocktail bar.

"You're a little early, boys," said the bartender. "He ain't here yet."

A young woman took a job as a governess but suddenly left it. Asked why she had resigned, she said—"Had to. Backward child. Forward father."

Little Tommy brought home his report card, and with it was a note from his teacher. "Dear Mrs. Jones," said the note. "Tommy is a bright boy but he spends his time with the girls. I'm trying to whip up a way to cure him."

Mrs. Jones studied the note, then wrote the teacher as follows:

"Dear Miss Brown—If you find a way to cure him, please let me know. I'm having the same trouble with his old man."



"But it's a lovely afternoon for 18 holes of dictation."